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Monthly Report of Honey Producers

Early in May we sent the following questions to honey producers: 1. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound? (b) comb honey, fancy and No. 1, per case? 2. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per case? 3. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 4. How is honey now moving on the market in your locality? Give answer in one word as slow, fair or rapid. 5. How does the number of colonies that are in condition to store surplus honey this season compare with the number of such colonies last year? Give answer in per cent. 6. What is the condition of the honey plants at this time in your locality as compared with the average? Give answer in per cent. 7. What is the per cent of winter and spring loss of colonies (if any) in your locality? Give answer in per cent. 8. What is the present condition of the colonies in your locality as compared with normal? Give answer in per cent. The answers returned are as follows:

State Name.	Large lots. Ex.	Large lots. Comb.	To grocers. Ex.	To grocers. Comb.	Retailers. Ex.	Retailers. Comb.	Movement.	No. of colo.	Con. of plants.	Pct. wint. loss.	Con. of colo.
Ala. (J. M. Cutts)	..	..	.55	..	.65	..	Fair	100	90	1½	90
B. C. (A. W. Finlay)	.10	..	.75	..	.90	..	Slow	150	100	17	150
Calif. (L. L. Andrews)	.05	..	..	..	.62	.14	Fair	80	0	15	75
Calif. (F. J. Edwards)	..	..	.33	2.80	.42	.15	Slow	100	110	..	100
Colo. (O. E. Adcock)	..	..	.40	..	.45	..	Fair	100	100	1	100
Colo. (J. A. Green)	..	..	.30	2.25	.40	.14	Rapid	95	20	15	125
Conn. (A. Latham)	..	..	.80	4.75	1.00	.27	Fair	60	100	32	45
Conn. (A. W. Yates)	..	..	.70	5.00	1.00	.30	Fair	25	100	75	50
Fla. (C. C. Cook)	.04	..	.30	..	.39	..	Fair	90	90	10	100
Fla. (Harry Hewitt)	..	..	.40	..	.55	..	Fair	100	100	0	100
Ga. (J. J. Wilder)	..	..	.40	..	.50	..	Fair	70	90	5	75
Ida. (Ryon R. Isbell)	.05¼	..	.34	..	.40	.15	Fair	..	110	4	125
Ill. (A. L. Kildow)	..	..	..	..	.50	.12	..	100	..	5	100
Ind. (Jay Smith)	..	..	.45	3.00	.60	.15	Slow	70	100	30	70
Ind. (T. C. Johnson)	..	..	.50	3.60	.60	.20	Fair	100	100	50	100
Ind. (E. S. Miller)	..	..	.45	3.00	.60	.15	Fair	90	25	15	90
Ia. (E. G. Brown)	.05	..	..	..	.50	..	..	100	90	17	100
La. (E. C. Davis)	.05	..	.35	..	.50	..	Fair	100	100	1	100
Me. (O. B. Griffin)	..	..	..	5.00	..	.30	Slow	100	100	37	90
Md. (S. G. Crocker, Jr.)	..	..	.60	3.60	.75	.25	Slow	50	90	50	80
Mich. (I. D. Bartlett)	..	..	.45	3.50	.55	.20	Fair	50	85	50	60
Mich. (F. Markham)	.06½	..	.40	..	.55	.15	Fair	100	75	5	80
Mich. (E. D. Townsend)	.07½	..	..	..	..	..	Rapid	100	50	10	60
Minn. (F. W. Ray)	.06	..	..	4.80	.50	..	Slow	85	75	20	90
Minn. (B. L. Morehouse)	.06¼	..	.45	..	.60	.15	Fair	90	50	10	80
Nev. (G. G. Schweis)	..	..	.35	..	.45	.15	Slow	105	60	1	125
Nev. (Mrs. E. G. Norton)	.05	..	..	..	.40	..	Slow	90	50	10	90
N. Y. (Adams & Myers)	..	..	..	..	..	..	Good	50	70	30	70
N. Y. (Geo. B. Howe)	..	..	..	..	.57	.20	Fair	40	75	50	75
N. Y. (F. W. Lesser)	.07	..	..	..	.50	..	Fair	80	100	20	80
N. C. (W. J. Martin)	.05	..	.55	..	.75	..	..	100	100	7	100
N. D. (Chas. Engle)	..	..	.40	..	.50	.15	Fair	75	50	20	75
Ohio. (F. Leininger)	..	..	..	..	..	..	..	100	125	5	98
Ohio. (J. F. Moore)	..	..	..	..	.60	.17	Fair	75	80	75	80
Ohio. (R. D. Hiatt)	..	..	.50	3.50	.70	.20	Slow	90	100	9	95
Okla. (C. F. Stiles)	..	..	..	..	.65	.18	Slow	90	90	5	85
Ore. (H. A. Scullen)	..	..	..	..	..	..	Slow	105	110	5	110
Pa. (D. C. Gilham)	..	..	.75	4.00	1.00	.25	Slow	50	80	50	80
S. C. (E. S. Prevost)	..	..	.50	..	.65	..	Slow	90	100	10	80
S. D. (L. A. Syverud)	..	..	.40	3.00	.53	.16	Slow	100	60	15	100
Tenn. (J. M. Buchanan)	..	..	..	..	.75	..	Slow	100	90	2	90
Tenn. (W. L. Walling)	..	..	..	..	.75	..	Slow	100	95	2	100
Texas. (T. A. Bowden)	..	..	.45	..	.55	..	Fair	75	75	15	60
Texas. (J. N. Mayes)	.06	..	.30	..	.40	..	Rapid	85	50	15	100
Texas. (H. B. Parks)	.05	..	.40	..	.45	..	Fair	100	100	3	100
Utah. (M. A. Gill)	..	..	..	..	.35	.14	Fair	125	60	3	110
Va. (T. C. Asher)	..	..	.50	3.00	.70	.18	Fair	70	90	10	70
Wash. (W. L. Cox)	.05½	..	..	..	..	..	Slow	110	100	3	115
Wash. (G. W. B. Saxton)	..	..	.37½	..	.45	..	Fair	100	100	1	100
Wis. (N. E. France)	..	..	..	..	.49	.15	Slow	90	25	5	75
Wis. (James Gwin)	.06¾	..	.45	..	.55	..	Fair	95	75	10	95
Wyo. (Earl C. Reed)	.05	..	.35	..	.45	..	Fair	75	50	25	90

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Gleanings in Bee Culture
JUNE, 1934

Package Bee Shippers' Code

There has just been issued from the United States Department of Agriculture Adjustment Administration a bulletin covering a market agreement No. 43 and license No. 54 for shippers of package bees and queens produced in the United States. Beekeepers and shippers can secure copies of this by sending to the Superintendent of Documents and enclosing 5 cents; stamps will not be accepted. Should any difficulty arise between beekeeper and shipper, the marketing agreement No. 43 and license No. 54 will make clear the limitations and duties of both.

We Must Have Gentle Bees

Beekeepers write us occasionally that their bees cause disturbance among neighbors. The trouble may be due, in some instances, to improper handling of bees, as, for example, opening hives during a dearth of nectar or leaving combs of honey uncovered. Beekeepers should guard against such carelessness. In some cases, however, the trouble is due to cross bees that will not respond to reasonable handling and appear to be continuously on the offensive. Such colonies should be requeened with queens of a gentle strain. Gentleness and industry are two qualities that should be emphasized in developing a strain of bees with desirable characteristics.

The Bee Shippers' Code Under the A. A. A.

This was signed by the Secretary of Agriculture on May 2, and has been in effect during the season, as it was reasonably certain that the Secretary would attach his signature.

In its practical workings, the Code has been a great success, exceeding the expectations of those who worked to get it through. Under the terms of the Code it requires among other things honest advertising; and that bees or queens should be shipped within 10 days of the date specified or money returned.

On account of the higher price, full weight and young bees are sent. If any queens arrive dead or packages are received in poor condition it is required by law to make replacement without unreasonable delay. In short the Code has been a vast improvement over the old practice of price cutting, poor service and poor quality of bees or queens. It has and will save a large amount of correspondence between this office and the parties who would have entered complaint under the old system. Under the Code all grievances are referred to the Control Committee which has power to bring into action the strong arm of the law. This compulsory form of adjustment, or the fear of it, has saved and will save the bee journals who carry the advertisements of the bee shippers a vast deal of unpleasant correspondence.

A very few have complained that the prices allowed by the Code are too high—out of proportion to the price of honey—that they will not pay those figures next year; that they will make their own increase rather than pay the high prices. Be that as it may, the heavy winter losses caused an unprecedented demand for bees. Beekeepers were glad to get them at any price or go out of the business of honey production. If there had been no code there would have been price cutting with all its attendant delays and poor service.

Under the Code the shippers assert that they are getting only a fair living wage and that under the old system they were losing money. Actually some went out of the business of bee shipping.

Early Flow from Hard Maple

On May 3, 1934, the junior Editor spent a day in the Root Company apiaries in western Ohio, helping the boys check through colonies.

To our surprise we found whitened combs and queen cells in populous colonies. Very few dandelions and no fruit trees were in bloom and we wondered where the bees were getting nectar. We concluded that the source was hard maple. Here and there through the woods the

hard maples displayed a beautiful yellowish hue.

Since that time reliable reports from other beekeepers duplicate our experience. This simply goes to show that beekeepers must be ready for a honey flow, even in early May in this latitude.

Swarm Control

While swarming can not be prevented, it can be controlled. There are at least three swarm control measures that can be applied, viz., proper supering, ventilation and requeening.

SUPERING—Without a doubt a congested condition within hives prior to and during the honey flow is the prime cause of swarming. This congested condition can, in a measure, be relieved by supering properly. Populous colonies may swarm during the dandelion and fruit bloom honey flow if supers are not supplied early enough. In the production of extracted honey supers may be put on a little in advance of the main honey flow in order to avoid congestion within hives.

VENTILATION.—For the past eight or ten years in the production of extracted honey in the Root Company apiaries, we have ventilated colonies by pushing the pile of supers forward about one-half or three-quarters of an inch, leaving an opening at the back and front, above the brood chamber. This cools off the brood chambers and apparently does not interfere with brood rearing. This method of ventilating hives is not recommended for comb-honey production because the sections nearest the opening at the back of the brood chamber are not, as a rule, well filled and capped. It is preferable in comb-honey production to raise the hive up off the bottom board by means of small blocks.

REQUEENING — Colonies with old queens will, as a rule, swarm quicker than colonies with young queens. However, colonies headed with queens of the current season's rearing will sometimes swarm. Also, colonies developed from packages of bees with young queens will sometimes swarm the same season they are established.

A few years ago in two of the Root Company apiaries, operated for comb honey in western Ohio, some young queens were introduced the latter part of May. The colonies headed with these young queens did not swarm and we could not make them swarm, because, in some instances even though we failed to provide additional supers on schedule time and the colonies needed supers badly, they did not start cells during the season. Wouldn't it be great if the comb-honey producer could be relieved of the work of examining brood chambers every six or seven days and devote his time to supering?

To secure the maximum honey crop swarming must be controlled.

Bees May Starve in June

In many regions fair weather has enabled bees to take full advantage of the fruit bloom and dandelion this year. However, this may not be true in all parts of the country. There is usually a dearth of nectar between fruit bloom and clovers and this is a very critical time, especially for colonies not well supplied with stores. It is not uncommon for colonies to die of starvation early in June even when some clover is in bloom. Frequently clover blooms some little time before conditions are favorable for nectar secretion. Beekeepers should be sure that each colony is well supplied with stores during this critical time. Populous colonies use an astonishing amount of honey for brood rearing.

Package Business Greatest in History of Beekeeping

Direct contact in the field and reports from territory not visited show that the demand for package bees has been the greatest in the history of beekeeping. This has been due primarily to the heavy winter losses in the North, to the general awakening of orchardists to the importance of pollination, and to the further fact that workers out of a job are seeking the country and beekeeping, for the amount invested offers the best hope of helping out in the family expenses.

Winter losses have been the heaviest since the terrible winter of 1882 and 1883. This fact alone was enough to stimulate an enormous demand for package bees. In some cases one or two pounds of queenless bees would put a colony short of bees but with a queen in shape for a crop. In other cases two and three pounds of bees with queens could be released on combs of honey where the colony had died outright. Without package bees the honey business would have suffered a severe setback all through the summer.

The Only Safe and Sane Way to Treat American Foulbrood

Gleanings has been hesitating for several years to express its convictions in the matter of treating the old-fashioned, or what is now called American foulbrood. If we advocated the policy of shaking the bees, placing them on clean frames of brood foundation in clean hives, melting the diseased combs, and boiling the frames, it immediately aroused the protest of practically every foulbrood inspector in the United States. If, on the other hand, we advocated the policy of burning bees, hives, combs, brood and all, and burying the ashes in a pit, it would immediately arouse the protest of some of the old-line beekeepers who claim they have been successful in shaking. Up to the present time, we have taken the position that Gleanings should go no further than to urge beekeepers to follow the advice of their local inspectors who, acting under their state laws, would put into practice the treatment that was for the best interest of the beekeepers, as well as the state.

This would mean in most and practically all cases, that the inspector would apply the burning treatment, perhaps saving the hives, covers and bottoms, the same to be scorched out on the inside with a blowtorch or with a gasoline fire.

It is becoming more and more apparent as the years go by, that the shaking treatment as ordinarily applied has not been satisfactory; that in some cases, and in most cases where treatment has been left to the beekeeper himself, foulbrood has actually been spread rather than controlled. Inspectors have been saying for several years back, that where the burning plan was adopted, the disease was being wiped out, and that where the shaking process was used, the disease was increasing.

Importance of Immediate Treatment

Inspectors everywhere are now advocating applying treatment immediately after discovering the disease. In other words, the inspector, before he leaves the premises, burns up bees, combs, frames, any and all infected material, including honey and brood. This burning usually takes place at night in a pit 18 inches to two feet deep, large enough so that all the ashes can be later covered by fresh dirt. In other cases, the inspector has been burning bees and diseased combs in a pit and burying the ashes, but has permitted the owner to retain the hives after they had been suitably sterilized, either by scorching out the inside with a blowtorch or by scraping the insides of all the hive parts, covers, insides of the hives, bottoms and tops, and then washing with a solution of lye or soap. Where either complete or partial burning has been used, as just explained, and applied on the *very day* of the discovery of the disease by the inspector, the disease has been cleaned up. The inspectors are almost unanimous on this point, and they are now urging the bee journals to get into line. They complain that they are handicapped because the beekeepers object saying the bee journals do not advocate burning.

In Farmers' Bulletin No. 1713 of the United States Department of Agriculture, page 9, the burning treatment is advocated as "the safest and in the end, the most economical means of stamping out American foulbrood." It adds, "Diseased colonies should be burned as soon as possible after the infection is discovered. Before this is done, however, the bees must be killed," by the use of calcium cyanide or by the use of gasoline.

It was formerly believed that the bees could be saved by the shaking plan, but experience seems to show that the flying bees coming back into an empty hive are liable to scatter all over the neighborhood and thus spread the disease. It is here particularly that the shaking treatment fell down.

The government bulletin goes on to say further, that the hives, covers and bottoms can be saved if thoroughly disinfected by the use of fire or by scraping and scrubbing with soap and water, or lye water.

In view of all the evidence presented, and especially since James I. Hambleton, head of the Bee Culture Laboratory, advocates in this bulletin the burning treatment, Gleanings feels that it should get into line, and advocate the method that is being used now by practically 98 per cent of all the bee inspectors.

Inspectors are allowed in most states where the hives are comparatively new or in good condition, to disinfect the hives and allow them to be used again. Where the hives are old, and especially if they allow robbers to get in at the corners, it has been the usual practice to burn hives, bees, combs and all.

Honeybees in a New Arrangement

Jay F. W. Pearson, Ph. D.
Professor of Zoology, University of Miami, Coral Gables, Florida.

Bees Adapt Themselves to an Unusual Environment at A Century of Progress International Exposition

Preliminary plans for the biological exhibits at A Century of Progress in 1933 included a large display of living, beneficial insects. Dr. F. E. Lutz of the American Museum of Natural History, New York City, and Dr. E. F. Phillips, of Cornell University, Ithaca, New York, drew up the details of this proposed exhibit while they were members of the Entomological Subcommittee of the National Research Council Advisory Committee, one of a group of committee formed to advise the Exposition in the formulation of its plans for a scientific display.

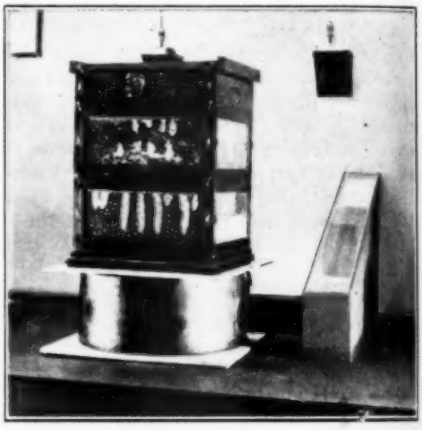
The honeybee naturally occupied a prominent place in this proposed exhibit of beneficial insects. During the months that followed my appointment to the scientific staff of the Exposition, it became necessary to make numerous revisions of plans, through all of which, however, I found it possible to retain the idea of a colony of bees living in a glass hive.

About the first of August, 1932, after studying the single-frame exhibition hives that have been used successfully for temporary store display by The A. I. Root Company of Medina, Ohio, and after noting that these hives were mounted on a swivel which permitted the turning of the colony by hand for better observation, I determined to attempt the continuous rotation of the hive, at the same time allowing the bees to have free access to the outside.

Problem of Selecting Proper Equipment

I was pleased to have from Dr. Phillips his endorsement of this experiment from the theoretical viewpoint, but was surprised to note a rather universal consensus of opinion against the project, voiced by persons who would be considered well versed in all practical considerations involved in the work. The main obstacles to be overcome were those of bee behavior. In the first place, it was questionable whether the colony would endure the constant rotation, at a rate which I determined should be one revolution each three minutes. In the second place, would the colony endure the noise of the motor, constantly humming beneath them, through which region of sound they actually had to pass to gain entrance or to leave the hive?

Again, would they follow in and out the passageway leading from the outside



Rotating observation hive, An active colony with contact to the outside during the period of the Exposition.

of the Hall of Science, into the bottom of the hive? This passage would be about seven feet long, the first foot through the walls of the building, the next three made up of wood but having a glass top for easy viewing, and the last section following with a rigat angle turn into a smaller wooden passage leading into a right-angle metal ell which formed the bearing on which the supporting plate of the hive would turn.

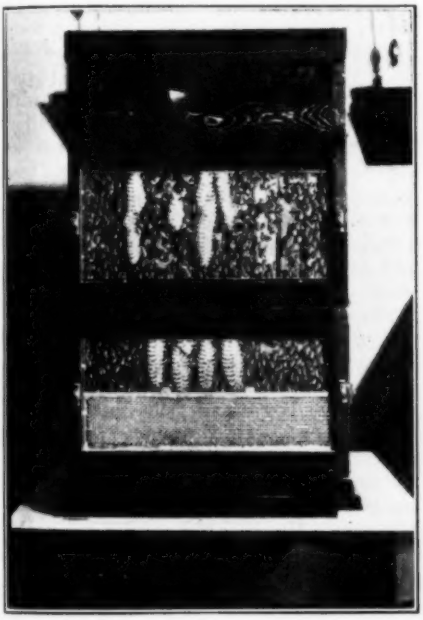
And further, would the bees continue to work, exposed to artificial light and surrounded by crowds, or would they move to the interior of the hive and remain there?

The final consideration, from the standpoint of the bees, was, would they, once they had gone out of the passageway, be able to find sufficient food along the lakefront and in the parks and yards of the city?

On the other hand, would the presence

of bees in the Exposition grounds prove a cause of disturbance and a source of annoyance to our visitors, particularly as the exit used by the bees was to be located in the southwest wall of the Hall of Science, facing, about at the level of, the Eighteenth street entrance to the Exposition grounds?

The mechanism for rotating the hive was constructed with due attention to durability and quietness of operation.



One end of the hive.

Three heavy rubber rollers support the steel plate upon which the hive rests and one of these rollers is geared to an electric motor which supplies the power. The other two rollers idle as the hive turns.

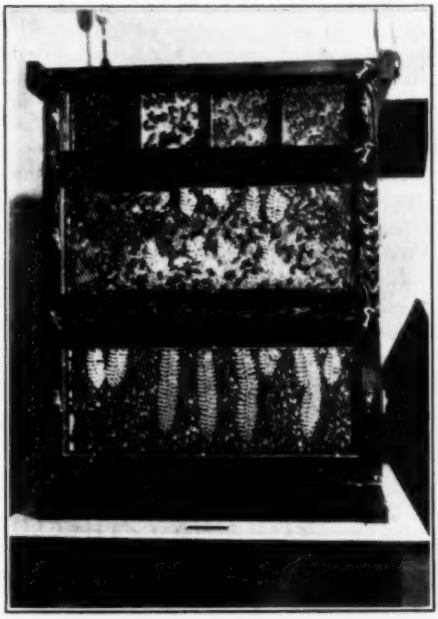
The joint between the plate and the entrance ell was machined and carefully fitted so that there would be no danger of bees being caught between these metal parts.

It was found financially impracticable to construct an all-glass hive but a small ten-frame Langstroth hive was fitted with glass on all four sides and was screened at the bottom on two sides for proper ventilation.

Hive of Bees Starts Rotating

Into this hive a colony of Italian bees was introduced. The hive was then brought in and set up on the plate and opened to the outside passageway on May 26, 1933. The motor was started on the 27th and great agitation resulted in the hive, many bees passing into the entranceway but few if any leaving the building. This excessive disturbance continued for several days. On the third day numbers of bees were seen to be leaving, entering the passageway on their way out from and into the building.

The activities of the hive seemed about normal after the first week and no changes were made in the setup until July 14. This time, as before, bees were furnished by Mr. A. G. Gill of the A. I. Root Company of Chicago and were put into a new observation hive by Mr. Gill and Mr. E. J. McCormick of the Cook-



One side of the hive.

Dul'age Beekeepers' Association.

This second hive was constructed with a greater proportion of glass than the first one and was installed to improve the exhibit and not because the bees had to be changed. This second colony contained a young queen and its bees rapidly became adjusted to the new surroundings. Within a few weeks new comb had been built, as shown in the photographs, and filled with honey, the bees making a perfect working display during the days of August crowds at the Exposition.

On August 24 a new super was added to the hive, providing some honey but adding mainly extra storage space for the products of this excellent colony. The hive on that date was literally jammed with honey and bees.

Temperatures in the Hall of Science during the Exposition have ranged from 45 degrees F. to 105 degrees F. The hive has been brightly illuminated. The walls of the exhibition space in which the hive rotated were dark red and a brilliant purple. No clamor of visitors has shown any effect on the bees, while to the best of my knowledge not a single person in the Exposition grounds has been stung by the bees or disturbed by them in any way during the flights and visits to flower beds.

From the time of its installation in the bee exhibit until the close of the Exposition, this second colony has been rotated a total of approximately 31,720 times. The hive has not been opened except at the time when the super was added. No water and no food have been supplied except for the honey which was placed in the hive and super at the times of installation.

Bees Display Excellent Adaptability

Apparently both colonies have functioned perfectly despite the radical environmental changes to which they have been subjected. They have displayed an excellent adaptability.

Inadequacy of funds prevented the rounding out of this unit with a complete display of bee and hive materials but through the kindness of several other persons and organizations, an attractive exhibit was brought together. On the right of the living colony an historical Langstroth hive was exhibited through the courtesy of Dr. Phillips. Beyond this hive was shown another historical hive, the Harbison model, loaned by the U. S. Bureau of Entomology. To the left of the living colony, a concrete hive was on display, the loan of Mr. C. E. Smith of Detroit. Models of flowers and framed charts of bee anatomy and activity were placed on the black wall. The entire background was painted a royal purple which contrasted in excellent manner with the most colorful parts of the exhibit, namely, two honey pyramids, which occupied each end of the display. These pyramids were built of one-pound jars of strained honey, mounted on plates of glass, in five layers, and illuminated by two floodlights placed beneath the counter.

The bottom layer of jars contained a mixture of 75 per cent clover honey and 25 per cent buckwheat honey. Each succeeding layer contained less buckwheat honey and was consequently of a lighter color. The light passing through these jars of honey never failed to attract the favorable comments of the visitors. The honey and jars were furnished by the Empire State Honey Producers' Association, and the honey was mixed and prepared in Dr. Phillips' laboratory at Ithaca, N. Y.

Coral Gables, Fla.

Factors Affecting Queen Quality

Allen Latham

The Best Queens Must be Produced from Eggs Laid by a Vigorous Queen

In an earlier article I spoke of the low average quality of natural swarm queens, and said that there was a good reason for the fact. I have been severely criticised by some because of my stand in this matter and also because of my assertion that most supersedure queens are inferior.

I shall try here to explain to what this inferiority is due. In all cases, the inferiority is due to two things; low vitality of the egg which makes the queen, and neglect of the larva which makes the queen.

Some happy-minded persons who are wont to jump to their conclusions will at once condemn these two suggestions, for to them all things in nature are just about right, for they are blind to the fact that nature is very prodigal and in her prodigality she produces much inferiority. In any form of natural life this will be seen. Whatever variety of life we may consider we can find in it an occasional in-

dividual which stands out above all the rest, and invariably many individuals which stand well below the average.

Any breeder of domestic animals will assent to this statement and any gardener or florist will do the same.

Then why in the name of common sense should we think for a moment that the truth in the matter of bees is just the opposite? Even though we might consent to the suggestion that bees run a better average than most forms of life, should we say that in their case there are never any inferior individuals?

I think that most of my readers will agree with me in thinking that the great rule of natural life holds with bees.

Offspring of Queens Vary

Every mother animal has offspring varying in vitality, size, and individuality. This must be so, for the simple reason that the mother is not in exactly the same state of vitality and environment all through her motherhood. The same is true of the queen bee. Her vitality has its ups and downs, and her environment is frequently changing. A queen bee does not lay eggs as a clock runs, ticking them off at equally divided intervals. She sometimes lays an egg a minute and at other times three or four a minute, or, she may lay only one in ten minutes. Sometimes the bees are persistently stuffing her with rich food and at other times she has to beg for it. Why, then, should all her eggs be identical?

Now, a great many supersedure queens are worthless because the old queen is reaching a condition of very low vitality and of almost impotency. When a colony waits till its mother is in that condition before rearing a successor it is quite apt to get a very poor successor. If, on the other hand, a colony supersedes a queen when the beekeeper can see no reason why it should seek to do so, it is apt to get a splendid queen. Supersedure cells are well cared for and if the eggs are good the resultant queens should be good. Then the fault must be in the egg, if a supersedure queen is poor.

Now a few words about natural swarm queens. Why are many if not most of them inferior?

When the queen lays in the first cup she is in a high state of vitality and fecundity, and this condition holds for two or three more of the cups, but all the other cups are getting eggs laid by a queen of low fecundity and a poorly fed queen. Such eggs are of low grade.

The first few cups are well cared for, and they will normally produce excellent queens, but all the rest of the cups stand a better chance of producing poor queens. Why? For two reasons. When the prime swarm leaves there is a tremendous break in the economy of the colony, a complete upset. Brood is left with few nurse bees to care for it. Ten or twelve yawning queen-cells with larvae in them are calling for rich royal jelly. How can a depleted nursing-force care for that brood and those cups? To be sure, the amount of unsealed brood is small compared with what it was a week earlier, but there is too much when so many unsealed queen-cells are present.

Then most of these cells are along the edges of the combs and a cool night is bound to reduce the temperature about those cells. Some of the cells may be absolutely uncovered for a period of time. Will such cells produce good queens?

There was a time when I accepted the teaching of the books in this matter and thought one could get no better queens than those reared at swarming time, but I had to change my opinion. It came about in the year or season of 1903, thirty years ago.

An Interesting Experiment

I had only about fourteen colonies at that time and wished to get some rapid increase. I had built ten new hives and decided to divide a big natural swarm. There were ten combs in the mother hive and I gave each division one comb of brood and honey and sheets of foundation. I then divided the swarm into ten parts. Each part was given a cell from the parent colony.

It was a good season, and a fine locust flow immediately followed the division. Each little colony soon had its queen and quickly had plenty of stores and a fair amount of brood. By fall they were all in condition to winter, and there was no great diversity of quality to be noted at that time, except that some queens had more compact brood patches than others had.

The next spring had not advanced far before these ten colonies began to show great differences. Three out of the ten forged ahead of the others, and two of the three were marked leaders. I named these three queens X, Y, and Z. I was

teaching school at that time and realizing that these queens were of unknown quality I gave them these names. I never named the others at all for they were recognized at the start as known quantities—that quantity being near zero.

X proved a most excellent queen. I reared many queens from her and until European foulbrood set in these queens were carefully bred by me for two reasons. They were great non-swarmers and splendid honey-gatherers. I had to discard the strain when the disease came for they were not resistant.

That first spring Y outstripped X and for a time I thought her the better queen. But her bees gathered almost no surplus. They must have had a short field life. Z was not quite so bad and I did breed some from her.

Here were ten sister queens, and only one of the ten was an excellent queen—two others good at the start, but only one of them profitable. The remaining seven were discarded at the first opportunity.

Now those ten queens were the result of natural swarming. The matter got me to thinking, and my only conclusions were what I have brought out in this article. Am I right, or am I wrong? I have put the matter to test many times since and I seem to be right. If anyone can prove me wrong I am ready to accept the truth.

In regard to supersedure queens: My records show that only occasionally is one of these queens of marked excellence. One in six may be fair, but the majority are mighty poor compared with what I can rear by grafting queen-cups.

I assert again, for I have asserted it elsewhere, there are breeders today rearing queens which are far and away better than the queens the bees will rear if left to themselves. Anyone is free to disprove this statement if he is able. He will have a tough task.

The truth is that most of us are prone to accept statements in books on bees without a question, and we keep bees for many years believing things which are not so. We never see the truth, for our eyes are shut to it.

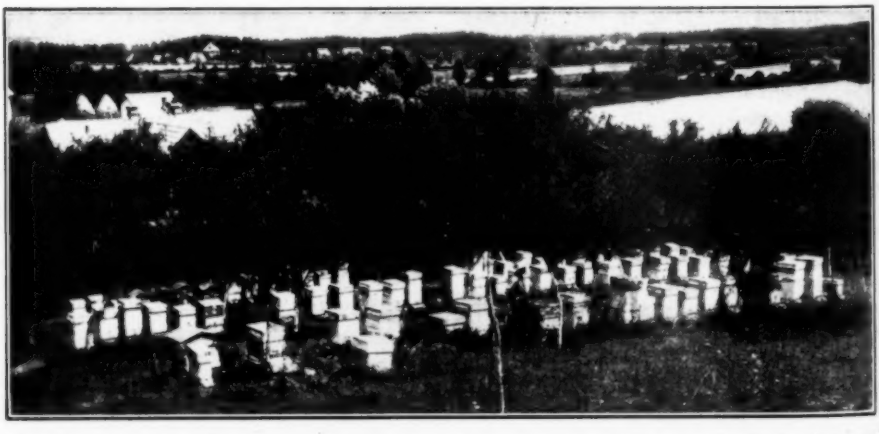
Norwichtown, Conn.

Beekeeping in Jugoslavia

Josip Katalinic

A Country of Flowery Woodlands and Meadows, Wonderful Bees and Honey

In the August, 1932, issue of Gleanings in Bee Culture, Dr. E. F. Phillips described his excursion through a part of Jugoslavia, the province of Slovenia (Carniola), the home of Carniolan bees. Dr. Phillips crossed Jugoslavia in winter



Modern apiary of Prof. Mlociski, Sarajivo, Jugoslavia. This is where the Austrian Grand Duke Ferdinand was killed, which was the immediate cause of the war.

time. Therefore, I should like to give a more complete description of Jugoslavia beekeeping in this article.

Marked Variations in a Small Area

The area of Jugoslavia is about as great as that of the state of Oregon. There are few states of its size so varied in fertility, climate, or vegetation as Jugoslavia. The coast of the Adriatic has a mild Mediterranean climate. In Dalmatia, especially, there are good beekeeping locations. Bees develop very early in January and February. The honey plants are: rosemary, sage, almond and later in the spring fruit trees. In the fall, after a rainfall, there is an abundant blossoming of the heath (*Erica verticillata, Er. multiflora, Er. mediterranea*). Dalmatian honey has a delightful flavor. The honey of Olynta, Dalmatia, is estimated equal or even superior to that of Narbonne (France).

Carniola and northwestern regions are in the mountainous zone of the Alps. The winter there is very severe and the summer mild, sometimes even cold. Beekeeping in Carniola, the home of the oldest beekeeping teacher, Jansha, is well developed, but in honey production it is not to be compared with other parts of Jugoslavia. The Carniolan bees (*Apis mellifica, var. carnica*), that developed there in the magnificent mountains the outstanding qualities in their struggle against the rough climate, are being exported to all parts of the world. Recently, the international club "Carnica" was established for studying this race of bees. Carniolan bees are dominating in Jugoslavia.

The central or greatest part of Jugoslavia has the central European climate with rather severe winters and warm summers. Rainfalls are moderate. It is the most important part of Jugoslavia for beekeeping. The characteristics of these regions are woodlands (oak, beech, lime tree, locust, chestnut, raspberry, a species of the fireweed, etc.) and large areas of meadows and pastures and orchards in the hills. Besides the locust and linden honey, the most common is excellent meadow honey from many aromatic meadow flowers. Some agricultural plants give the honey flow (cobza, pumpkin, buckwheat), but generally the intense agriculture does not help beekeeping as it could. The attempt of some beekeepers to introduce sweet clover and Hubam was an entire failure because the peasants consider sweet clover but a weed in comparison with red clover which is more tender for their stocks.

The average yield per colony is about 60 pounds. In good locust localities the average yield is 100 pounds. The biggest surplus exceeds 200 pounds. The food-chamber is not yet introduced.

The extreme northeast of Jugoslavia has a severe continental climate. Very cold winters and hot summers are the rule. However, in these regions, because of many locust woods and some drouth-resistant plants, beekeeping is well developed.

Elaborate back-lot apiary of Mr. Jakov Latskovic.

Although severe winters or drouth hinder beekeeping, the natural resources of the different regions permit the development of bee culture to a greater extent than is now practiced.

Ancient Beekeeping

In Jugoslavia live, as the name of the state indicates, the southern Slavs (Serbians, Croates, and Slovenes). They are a people devoted to agriculture and cattle raising. Bee culture and honey production has always meant very much to them.

The social life of the Jugoslavs was organized in home communes, a kind of primitive communism. Beekeeping with its products, though primitive, played a considerable role in the life of the people. With the disappearing of these communes ancient Jugoslavian beekeeping vanished, too.

Modern Methods Introduced to Restore the Primitive Bee Culture

As primitive methods diminished, modern beekeeping penetrated with its wooden hives and frames for movable combs. These were the characteristic hives of European type—small space, no supers, opening at rear. Success was not satisfactory because of inconvenience of the system. Some tried improving this system by making an opening above, and some by adding supers. They named these hives American hives, on account of the upper opening. In that period Prof. Zivanovic, called the "Serbian Dzierzon," had most merits for the Jugoslavian bee culture.

With the efforts of pioneers of modern beekeeping, among which we mention Ivo Antonioli and Jov. Jovanovic, the American hives are more and more to be found.

Efforts Toward Standardization

All systems and methods are used. The modern beekeepers of Slovenia alone have the standardized hive, constructed by A. Znidersic. This hive is a combination of American and European type. The size and number of frames are American ideas but the opening is at the back.

The Union of the Beekeepers' Associations is endeavoring to choose a standard hive for the whole state. It is agreed that this hive must be one of American type, but the problem of the size is left open.

Need for Larger Hives

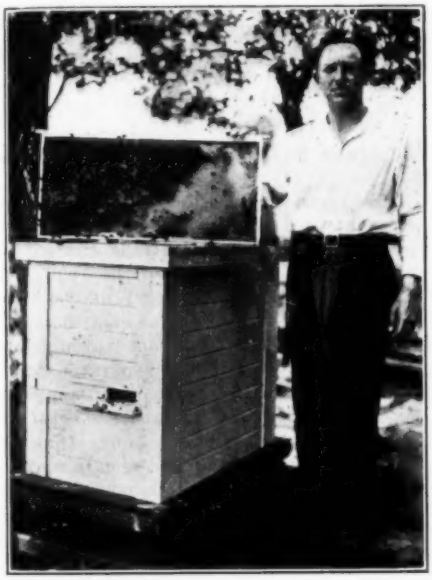
After experiencing all troubles and difficulties of small frames some beekeepers tried even larger frames than the American ones. The Jugoslavian Bee Industry of K. Ritzmann constructed a hive named "Goliat," with brood frames 65 mm. (about 25½ inches) wide, 30 cm (about 11¾ inches) deep, inside measured. The brood chamber contains 9 frames with a special feature for closing the spaces between top-bars to retain the heat. These hives are not made of wood but of pressed sedge plates.

Associations and Literature

There are in Jugoslavia about seven

American hives are more and more to be found in Jugoslavia. Apiary of Mr. Petro Zivanovic, Lenovac, Timochki.

central beekeepers' associations: one in Slovenia, three in Croatia, two in Serbia, one in Bosnia. With each of these central associations many local branches are affiliated. All associations are united in the Union of Beekeepers of Jugoslavia (Bel-



A really large bee hive. Mr. Karlo Ritzmann with his hive, "Goliat."

grade). The president of this central organization as well as of the All-Slavian Beekeepers' Union is Mr. Ivetozar K. Georgevic, a practical beekeeper and bee lover keeping bees from his earliest youth.

The Union maintains its experimental station at Karlovci guided by Dr. I. Grozdanic, the author of some good works on bee life. Mr. Ignat Pobegaylo, another solid bee student, is in the service of the government.

A group of beekeepers attempts to engage the beekeeping fraternity in cooperation both for the buying of bee supplies and selling bee products on the cooperative basis. This group publishes an excellent bee journal.

Aspects in the Future

Though not rich with natural sources of nectar, Jugoslavia possesses, from the European point of view, the very best climate, flora and geographical situation for beekeeping. However, it is not on the corresponding degree of the progress. Here are some statistic figures showing this advance:

The number of colonies in years: 1921—with movable combs, 119,697; with immovable combs, 410, 613; mixed, 4136; total, 534,446. 1931—with movable combs, 208,410; with immovable combs, 414,867; mixed, 15,412; total, 638,689.

This number could be increased to the number of two million without any feeling of overstocking.

The history has not been favorable to the Jugoslavs. Being divided in many different states (Austria, Hungary (Croation), Serbia, Turkey, Montenegro) and hindered by the efforts for liberty and uniting, they could not advance satisfactorily. But the laborious beekeepers full of interest and enthusiasm may overcome many obstacles. They find Jugoslavia as one of the European states where beekeeping could be much more than a sideline for peasants and sport for others as it is common in Europe. They already see in the mind many white hives scattered over the sunshine hills and valleys of their beautiful land.

Rogolji, Lipik, Jugoslavia.

Proper Use of Capping Melters

Vernon C. Culhane

Cooling Honey Immediately After Separation from Wax Prevents Discoloration

His work is always done faithfully, willingly and well. Unjust criticisms are borne in silence and patience. Do I mean some dear, understanding friend? No, just our old neglected capping melter. Of course, it is always willing and faithful when prepared for work. It does good work when given a chance — something it doesn't always get.

Criticisms differ from the producers who believe that capping-melter honey is practically as good as any, to those who declare that the use of one will seriously darken and injure the flavor of any honey.

Is this divergence of opinion due to varying market conditions, honey conditions, or methods of operation? I hope that the following results of my observations may assist the reader in solving his own capping problems.

A Simple Test for Degree of Darkening

Anybody can try this test. Take a container that holds about one pint, and collect some honey and wax as they run from the melter. Catch them in such a way that they will run down the side of the cup and not drizzle and mix honey and wax unnecessarily. Immediately cool by setting the container in cold water. In my experiments such honey had to be held beside unheated honey to tell the difference. Then where does this darkening process take place?

Suppose the discoloring progresses at the same rate during the entire time that considerable heat is present. The ordinary honey and wax separator requires the major portion of this time; therefore couldn't we expect the most discoloring there? Further experimentation verifies that this is the case. I use a small separator made from a five-gallon can. Honey that is cooled immediately after going through this is affected slightly, and it would be a natural conjecture that a larger separator would be more injurious. If honey is left in the separator to cool under the wax, it will darken considerably. Perhaps some who condemn a melter do not understand this.

Suggested Improvements of Melters and Separators

A standard Peterson melter does good work on medium sized jobs. Larger extracting outfits may require a group of steam pipes fitted above the melting surface or the melting surface increased by adding to the size or number of the melters. A lid to keep out dust wouldn't hurt any melter.

The separator can be improved upon considerably. Mine is larger than necessary. Except for the heaviest jobs, a two-gallon separator could do all the work, and thus allow the honey to move through it much faster. Either the separator or the melter should have an extension in order that the honey and wax may run down an incline. Some authorities claim that small droplets of wax are responsible for the cloudiness often so evident in capping-melter honey. An incline may prevent this, and positively would stop the unpleasantness of splashing wax. Because of the small size of the separator, it should have a wax overflow.

Melter Must be Kept Free of Slumgum

A melter has an enormous capacity providing it is kept free of the collection of slumgum under the unmelted cappings. Occasional stirrings will help this. If much accumulates, it should be removed and put in the box of old combs to be rendered with the wax press. Except to keep hot, little other attention is needed until evening when all the cappings have been heated and the melter cleaned.

Separator Should be Emptied Every Time Used

The clear wax is dipped with a cup from the separator and put with the wax which overflows during the day. This wax will be of the very best, and will be ready for sale as soon as cooled and removed from the container. Next, all the clear honey is removed by pouring it out through the honey spout; or, if the separator has a honey gate at the bottom, it would be easier to draw it off there. Be careful not to get any of the murky honey that lies close to the slumgum. The remaining honey, wax, and slumgum is poured into a large container with flaring sides in order that the cake of slumgum may solidify and be easily removed. Next morning this cake is taken out and drained. It is then stored to be ready for rendering with the press.

The honey in the bottom of the container is left where it is, and next evening another batch of residue from the separator may be poured on top. Thus accumulates a small amount of honey which is really darkened by this process. Never mix this with the other. Your baker could use it. A careful observance of this method should result in no honey being heated for too long a time. This would naturally mean a whiter honey.

Cooling Honey as it Leaves Separator

Since this process has been rushed in order not to keep the honey heated long, a cooler of some kind should be used to cool the honey immediately after it leaves the separator. I cool mine by allowing it to run into the extractor and mixing with the cold honey there. Sometimes it is necessary to add more heat to this united honey before a proper straining job can be done.

Our locality usually produces a light colored honey. I pack in retail containers. I have kept melter honey separate to sell to bakers, but I find it isn't at all neces-

sary in my practice. I am not sure I can tell, except by direct comparison, whether or not good melter honey has been added to the honey from the extractor.

Since there have been so many objections to melter honey, the reader should use caution before taking chances of reducing the value of a large crop. The following questions should be considered: What are your market conditions? Are you competing with a lighter colored honey? Are you selling to wholesaler or consumer? The wholesaler may object to a slight change that a consumer could not notice. Is your honey more easily affected by heat than some others? Light, mild honeys may register changes that would be difficult to see in darker, higher-flavored honeys.

Drying Cappings Before Melting

Melting cappings immediately saves lots of work and mess. This also requires less equipment for storing and handling. Of course, if the operator decides that it is necessary to keep the melter product separate, it would pay to remove as much honey as possible before heating.

A regular Peterson melter is O. K. Use a smaller separator with an incline to receive honey. Never let such a wonderful sweet drizzle. Keep the melter hot. Keep it free of slumgum. Keep the honey moving. Clean out everything at the end of the day's work. Cool honey to a safe temperature as soon as possible. Experiment a little. Take and study samples from melter, separator, extractor and melter honey mixed with extractor honey. Are you getting the best grade of honey possible under your conditions? Are you handling your cappings with the least labor, the quickest dispatch, the lowest cost, and what about neatness?

Falfa, Colorado.

Queen Rearing

James W. Bain

This Simple Method Reduces Labor and Does Not Interfere With Honey Production

As a reader of Gleanings for the last forty years, I have eagerly sought all information therein relative to queen rearing, and have carefully performed many experiments as outlined in its pages. As a result, good queens have been reared by most of the plans as given, but in many of the experiments that I have tried, I find some objections, the greatest one being too many manipulations—too much detail. Also, almost all methods of queen rearing, if carried on extensively, disrupt many colonies, if not the greater part of the apiary. Furthermore, queen rearing as it is practiced today eliminates to a great extent the chances of securing any surplus from the colonies used, and frequently leaves colonies in an unfit condition to go into winter. With the method as given below, normal honey crops can be secured and colonies will be in good condition for winter.

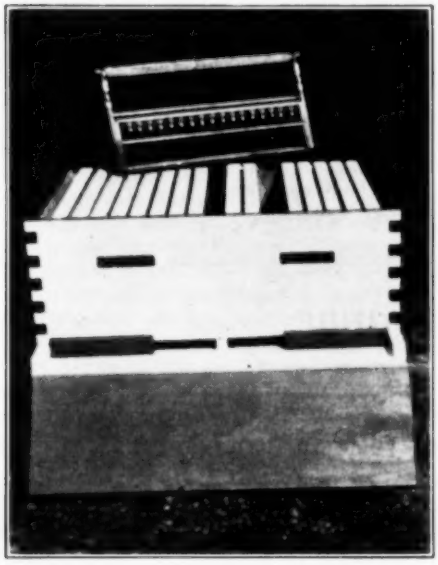
The thought foremost in my mind was to devise some plan, requiring a minimum amount of labor, by which the very best of queens could be produced without materially affecting the honey crop, and by which the apiary would suffer the least amount of interference. With this in mind, the writer has incorporated some of the major and minor operations of queen rearing into a few simple manipulations necessary for the highest development of queen bees.

This method does not sacrifice the honey crop except by the loss of bees used in establishing a necessary number of queen-mating nuclei. I realize that any plan, to be a success, must be adaptable to the small as well as to the large producer and that normal conditions must be maintained in the apiary. In fact, I want the queens produced to be more of a by-product, in order that the primary function of the apiary, honey production, may not be hampered.

Best Way to Produce Cells

Early in my queen-rearing experiments, I learned that there is only one place to produce the best queen cells, and that is in the brood nest, surrounded by food of all kinds, brood in all stages of development, nurse bees in abundance and proper ventilation, which is a very essential re-

quirement. Only at certain times and under certain conditions can long-lived and prolific queens be produced in any other manner. To produce first class queens above an excluder necessitates an endless amount of detail and attention together with years of experience. There are too many "ifs" that enter into this procedure. To produce queen cells in the brood nest at all times of the season requires a lot of hard work. The caging or removal of the queen from the brood nest, or placing



Showing the cell-bar frame removed.

the queen above an excluder in the upper story, as I practiced for some time, enabled me to produce the finest of cells from which large, long-lived and prolific queens were produced.

A Handy Queen-rearing Hive

Tearing the hives down frequently to get to the brood chamber proved to be such a laborious job that a more efficient and simpler way had to be devised. As a result, the following plan was worked out which proved to be far better than anticipated. By widening or extending the brood chamber beyond the regular width, and dividing this compartment from the main brood chamber by means of a division-board made of queen excluding zinc or wire, queen cells can be produced in this compartment that in every way equal those produced in the brood nest proper. One having never used such a device can not appreciate the simplicity and effieney of its use. I know of no other method that so nearly approaches a superseding condition as this plan, the cells being built right in the brood nest where they are naturally produced, surrounded with every advantage possible, and at the same time located so conveniently that they can be examined in a moment if necessary, without molesting the activity of the colony to any noticeable degree. With very little experience the very highest type of queens can be produced by this system during the entire season in a yard operated for either comb or extracted honey. It eliminates all heavy lifting and unnecessary disruption of the activity of the bees. The construction of this type of hive is shown very clearly in the illustration. Its operation during all or any part of the season requires only a minimum of manipulation.

Queen-Rearing Hive in Operation

As the season arrives to produce queens, select as many of your best colonies as you have queen rearing hives, and set them to one side, placing the queen rearing hives on the old stands. Lift out all combs of brood and honey with the adhering bees, placing them in the queen rearing hive, which should hold sixteen frames, ten on one side of the partition and six on the other; or eight on each side of the partition if eight-frame hives are used. One advantage in having eight frames on each side is that the operator can shift the upper story to either side. With ten frames on one side and six on the other, you establish a permanent brood department; however, either plan works equally well.

Manipulation of Hive

To begin with, there should be at least eight frames of brood and bees on one side with the queen, and six on the other side of the partition. Above the brood chamber containing the queen, place a hive body filled with combs—preferably combs that have been used in the brood chamber, allowing the queen to have access to the two sets of combs. Care must be taken to provide storage room above the brood chambers for incoming nectar, either by using section or extracting supers. It is advisable at all times to have one frame containing all drone comb if possible next to the partition in the side occupied by the queen. The queen, if young and prolific and having access to

from sixteen to twenty combs, will at all times furnish open brood to exchange for combs from which the bees have emerged in the cell-building compartment. Practically all nectar will be stored above.

The queen-rearing hive once estabished can be used at any time of the season. Care must be taken to keep the entrance to the hive enlarged according to the needs and comfort of the bees. As soon as the bees have been transferred to the queen-rearing hive, reduce the entrance of the hive to about ⅞x8 inches, allowing about four inches on each side of the partition in the hive. Leave them this way for a day or two until they get accustomed to their new environment. Late in the evening the next day after the transfer of the bees to the queen-rearing hive, feed them one quart of sugar syrup mixed half and half by volume in the feeder as indicated in the illustration. On the following day, mix feed as before, but give one-half gallon.

On the third day they are ready for a bar of accepted cells. Give them from twelve to twenty-four cells, the number depending entirely on the strength of the colony, the season of the year, and the amount of nectar and pollen being gathered at the time. Always place the cell bar frame second or third from the partition between two frames of open brood. In placing the bar of accepted cells in the hive, from whatever source you take the bar of accepted cells to place in the hive, never brush or shake the adhering bees from the bar, but carefully transfer all to the queen-cell compartment. Every fifth day, a new bar of cells can be added, but it is essential that a frame of well filled brood be placed between each bar of cells or both bars in one frame.

Feeding Very Necessary

Should there be sufficient nectar and pollen coming in, feeding will not be necessary, but it must not be overlooked. To the inexperienced, I will say, keep the food well supplied at all times. If some nectar is being gathered, you can feed sugar syrup, but personally I much prefer to feed diluted honey at all times, the amount of water for the solution being determined by the density of the honey. About 75 per cent honey and 25 per cent water is about right for the mixture; if honey is heavy, use half and half by volume.

If for any reason you wish to add brood from any source other than the parent hive, I have never experienced any trouble by placing frames of brood with all adhering bees in the outside of the cell building compartment of the queen rearing hive. In the picture, note the location of the feeder, directly above the cells and as far from the entrance as possible, always visible so that you know when more feeding is necessary. In fact, it serves as a barometer for the entire yard.

With the above plan, I have been able to produce queens to my entire satisfaction at any seasonable time of the year, with or without nectar being gathered and with the least possible amount of labor, and with no noticeable difference in the amount of honey gathered except as the crop would naturally be reduced because of a portion of the working force of the apiary being utilized in making up queen mating nuclei. So gratifying has been my success with this plan, that it has far exceeded all expectations. I have been very brief in describing the above plan for the production of queens for as you all know, the queen rearing branch of apiculture requires no little amount of detail. In these few words I have endeavored to make my procedure as clear as possible and I trust that any readers who attempt this outline will meet with results as gratifying as mine have been.

Marion, Ohio.

The queen-rearing hive complete.

License and Marketing Agreement With the Shippers of Package Bees and Queens, Approved and Executed by the Secretary of Agriculture

The Marketing Agreement for package bees, nuclei and queens was approved and executed by the Secretary of Agriculture, May 2, 1934, and became effective May 6, 1934, at 12:01 a. m., Eastern Standard Time. To become effective at the same time, the Secretary issued a blanket license which exempts no one in the United States engaged in the business of shipping package bees, nuclei or queens from the provisions contained therein.

Over 80 per cent of the shippers in this country voluntarily signed the Marketing Agreement, and their names and addresses appear in a pamphlet bearing the above title. Copies of this Agreement and License were distributed to all shippers of record. If your name was not on the list and you desire to have a copy, drop a line to Mr. Laurence H. Sample, General Crops Section, Department of Agriculture.

A study of this document will undoubtedly prove helpful. It contains both the Marketing Agreement and License under which the industry is to operate, and a few words calling attention to the high spots is considered opportune at this time.

The 1934 season promises to be one of the best in the history of the bee and queen shipping industry. The minimum prices asked and received by a majority of the shippers have in no wise diminished the number of sales. In fact, shippers report more orders than they can fill, making it necessary to disappoint some of their customers.

The evidence of good faith and sincerity of the shippers is to be commended. In writing this Agreement, they included practices which are customary in the trade, such as the guarantee of replacement of bees and queens, the discontinuance of misleading advertising, and not to ship from yards infected with American foulbrood.

In order to assist the industry and the Department of Agriculture in the administration of this Agreement and License, certain reports are required to be made at regular intervals. These are to be as few and require as little time as is consistent with our needs. Such reports are to be made direct by every shipper engaged in the business to the Managing Director or the Secretary of Agriculture only. This information is regarded as confidential and is not available for examination even by members of the Control Committee.

The License is to be administered by a Control Committee to be selected by the shippers. The Secretary of Agriculture has the option of approving or disapproving the selection of any person as a member of this committee. All acts of the Control Committee are subject to approval by the Secretary. This provision safeguards the industry against any rash, unbusinesslike or partisan action on the part of the Committee and assures an honest and impartial deal to every shipper and buyer of package bees and queens.

The Control Committee is authorized to employ a Managing Director, who shall not be a shipper nor shall he have any financial interest in any package bee or queen rearing enterprise. It shall be the duty of the Managing Director to receive and compile the reports above mentioned and to make the results available to each shipper, to hear complaints, and to investigate upon the advice of the Committee any violations which shall come to his attention. It also devolves on him to notify and collect from each shipper the proportionate share of the expense of administering the Agreement and License. This amount shall be based on the sales of each shipper.

Although the Marketing Agreement did not become effective officially until May 6, the vast majority of the shippers of bees and queens decided to do business under the provisions of the Agreement, and, consequently, to all intents and purposes the Agreement has been in effect since the beginning of the shipping season. Little or no change, therefore, was necessary in the business procedure followed by those shippers when the Agreement became effective.

In all cases where efforts toward any progressive movement are made, there are always a few who hold back and retard the efforts of the majority. Begin-

ning May 6, however, each member of this group must conduct his business in accordance with the provisions of the License. Otherwise he will be subject to disciplinary action.

If every man in the industry will give his wholehearted co-operation and support to this movement and really boost his product by improving quality and service, he will not only have satisfied himself but have a satisfied customer, both of which make for a better year in 1935.

Laurence H. Sample.
James I. Hambleton.

Shall Beekeepers Organize Their Industry?

The Future Success of Beekeeping Depends on Proper Organization

At the Minneapolis meeting it was voted to continue with the negotiations for a bee products marketing agreement. Under the circumstances, with no finances to work with and none in sight, the committee feels that the burden of the effort to organize the beekeeping industry must rest upon the beekeepers themselves. Many beekeepers in several states have told us that they are willing to help. The Agricultural Adjustment Administration has assigned Mr. Laurence H. Sample, Food Products Section, to our case. The Code Control and Records Section of the Agricultural Adjustment Administration has furnished the legal form found at the end of this article which enables members of beekeepers' organizations to authorize a member of their organization to represent them in negotiating an agreement with the Secretary of Agriculture. In order to proceed with the formulation of a code it will be necessary to have signatures representing 65 per cent of the volume of honey produced. If this project is to materialize beyond the stage of correspondence and conversation, it is necessary that interested beekeepers sign these proxies and send them to their Secretary, who will in turn forward them to me.

Whether or not a code is finally adopted, it is absolutely essential that every effort be made to increase the membership in county and state beekeepers' associations and in the American Honey Producers' League, so that these organizations will be truly representative of the volume of bee products entering commerce. It is plain that the entire agricultural industry is being subjected to the searching scrutiny of the Administration at Washington. Beekeepers must realize that they have come to the parting of the ways. Either organize and by orderly methods protect their mutual interests, or drift, and make the best of it. It is not pleasant for those who have their life savings invested in bees and equipment to be pushed about by other influences which are organized. Only by organization can beekeepers obtain recognition in a showdown.

The Agricultural Adjustment Administration has requested the following information from all members of beekeepers' associations for the calender years 1931, 1932 and 1933:

1. Number of colonies of bees each period. 2. Pounds of honey produced each period as: (a) comb, (b) extracted, (c) cut comb. 3. Pounds of beeswax produced each period. 4. How the honey was disposed of each year; (a) in wholesale or bulk packages, (b) in retail packages. 5. How the beeswax was disposed of: (a) in bulk, crude, (b) refined, (c) in exchange for foundation. This information should be forwarded immediately to your Association Secretary or to this office, for filing.—R. H. Kelty, Secretary Code Committee, East Lansing, Mich.

Authorization of a Member of an Association Designating an Agent to Negotiate and Execute a Marketing Agreement Pursuant to Section 8 (2) of the Agricultural Adjustment Act.

Whereas, heretofore an application has been made (or will hereafter be made) to the Secretary of Agriculture upon behalf of a substantial number of members of the——(State or County) Beekeepers' Association to execute a marketing agreement pursuant to Section 8 (2) of the Agricultural Adjustment Act relative to Bee Products of the United States.

Therefore, I, ———, being a member of the ——— (State or County) Beekeepers' Association, do hereby authorize ——— for and on my behalf to:

(1) Negotiate such a marketing agreement with the Secretary of Agriculture and any or all processors, associations of producers and others engaged in the handling in the current of interstate or foreign commerce of an agricultural commodity or product thereof, to wit: Bee Products, and

(2) Enter into and execute for me and on my behalf, any such marketing agreement as the Secretary of Agriculture shall, after a hearing called for such purpose pursuant to said Section 8 (2) of said Act, approve.

The said ——— is hereby authorized to deliver this authorization to the Secretary of Agriculture as evidence of his authority to so act for the undersigned in respect to said marketing agreement.

Date——————— Signed———————

From the Field of Experience

CURB SELLING

Simple Stand for Displaying Honey Rests on Car Bumper

Usually in curb selling the product is sold from the stock in the back of the car or truck and no display is available. The displays aids greatly in selling. Tall, slender sixteen-ounce jars are used for display purposes as these show off the honey to the best advantage.

Saturday is an excellent day for curb selling in a country town where people are in town for trading purposes.

The shelf of this simple stand, as shown in the picture, is made of material twelve inches wide. This is fastened to two uprights and a narrow strip is nailed near the bottoms to rest upon the bumper of the car.

Painting letters is not a common art nor is it easily done. It requires a lot of time when attempted by the average person. The letters may be drawn and cut out of black construction paper or oilcloth. Magazine advertisements provide good copy for a guide. The letters should be held in place by means of waterproof glue and given a coat or two of varnish to make them weather proof. The letters in this picture were cut from five inch squares.

Curb selling, with a good display, is a splendid way to draw attention to one's product and create interest in it—two prime requisites in selling. Many times "to see is to buy."

The price should be prominently displayed, for people are very often timid about approaching to ask the price, thinking it may be too high for them.

In our state no license is required for curb selling if one sells the product he produces. It might be well to ask an authority about this if attempted in other communities.

One may make many new customers in this way that he otherwise might not contact.—Benj. Nielsen, Aurora, Nebr.

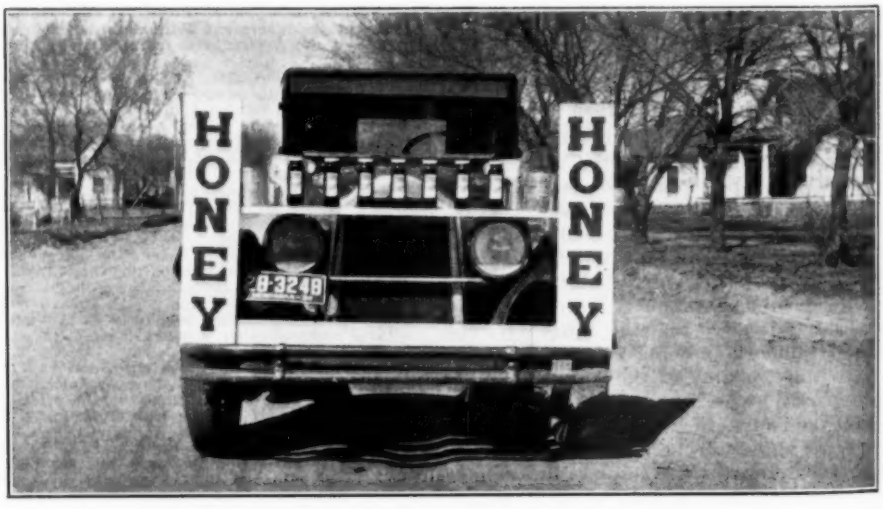
SCOUTS FROM THE SWARM

Beekeeper Tells How Two Swarms Found New Homes

For a number of years I have been looking to the bees for information as to how a new home is discovered and occupied by a colony intending to swarm.

I have placed bait hives in trees, and tiered bodies up in apiaries, some with foundation and others with drawn comb. If given a choice the swarm invariably chooses the hive with drawn comb.

We are told that a swarm after leaving



This attractive aid to curb selling has proved profitable.

the hive and clustering will send out scout bees in search of a new home. This is probably the usual method. However, I am satisfied that bees use other methods.

One year in Porto Rico I had one hive of Carniolans in my home apiary. The queen was not clipped, and the colony was preparing to swarm. My home was like many homes in the tropics, built high off the ground. The ground floor was used as a workshop and was open on three sides. It was also used for storage and equipment. As a rule, there were empty hives and sometimes for a day or two hives of drawn comb were to be found there.

The same day I noticed the Carniolans' preparations to swarm I saw some Carniolan bees in the shop around a super of combs. The super had a tight top and bottom but a one-inch auger hole in the center of one end near the bottom. The bees did not have the appearance of robber bees. The following day I again noticed the bees going to and from the small entrance. For this reason I did not break up the swarming preparations in the Carniolan colony. The next morning was bright and clear and as I worked in the apiary, I kept an eye on the Carniolan colony. About 9 a. m. the swarm issued. Before they completely formed a cluster on a tree they started for the shop and took possession of the empty super of combs. There is little doubt in my mind that these bees did not send out scouts from the cluster as they did not hang long enough to have done so.

On another occasion I saw a swarm flying over the valley where I was working in an apiary of some two hundred colonies. The bees were flying rather low and quite slowly. It was probably three to five minutes from the time I first saw them until they were over the apiary. It seemed to me they smelled the hives below them, because when they had flown about half way along the rows of hives (they were in three long rows) they seemed to hesitate and then circled the apiary some little distance above me. The light was such that I had a very clear view of their maneuvers. They continued flying above the apiary in a very irregular manner for at least fifteen minutes. Finally, they settled all in a bunch on and around a hive in the center row. I immediately ran over to watch them. I saw by the mark on the cover that the hive was supposed to have a virgin queen. The swarm then started into the hive and so far as I could see there was no fighting between them and the original bees in the hive. The swarm took possession peacefully and the queen had eggs in the hive the following day. What attracted them to that one hive I do not know. It is possible the virgin had been lost in mating or that she had gone on her wedding flight. I watched the hive for an hour afterward to see if a virgin queen would arrive on the scene but I did not see her. My conclusion was the bees in the hive were queenless and their condition was recognized by the swarm which then took possession.

I have often wondered if this swarm just happened to find this queenless hive or whether scout bees had been sent out previously from some distant point. My opinion was that they just happened onto this hive and were opportunists and so took possession.

Is it possible there are two or more answers to the question of how do bees intending to swarm locate their new home? —Penn G. Snyder, Dayton, Ohio.

EXPERIENCES WITH CAUCASIANS

This Race Appears to Have Worthwhile Characteristics

Becoming interested in the many claims of superiority made in the bee journals for this strain, in the spring of 1932 I ordered and received several packages of them from a reliable southern breeder. My first surprise was the color. They are described as "Mountain Grey." The bees I received had very little grey on them and could best be described as being slightly smaller than Italians, the ground color shading from a dark leather color to blue-black with three grey bands. The queens were blue-black and the drones produced later on were blue-black with three dull gold bands.

A month later, from the most promising of these queens, cells were grafted into nuclei and the resulting queens duly emerged; and here again I was met with a surprise. I expected that all these queens would be like the mother, nearly black; about half of them were, but the balance in coloring could not be told from the ordinary Italian queens, some of them being quite golden. Thinking there must

have been some mix-up in the cells, another batch was set and when these were about ripe a few of them were opened. One cell would contain a black queen and the next a yellow. Having had no previous experience with Caucasians, I was at a loss to know whether this variation in coloring was due to the mother queens not having been purely mated or to Caucasians varying in color. However, that is how they worked out for me.

Since the rest of the yard as well as all surrounding yards are Italians, the workers of these queens would be mostly hybrids, it being clearly impossible to keep pure Caucasians. The question then arose as to what kind of a strain of bees would be produced by crossing Caucasian queens and Italian drones. The results are given below, since for two seasons I have had an unusual opportunity of studying the characteristics of Caucasian- Italian hybrids.

They winter splendidly. When packed away in the fall most of these nuclei were not full colonies, some covering only three or four frames, yet they, as well as the original Caucasians all wintered unusually well, without loss of a single colony.

Speaking first of the queens, in addition to the variation in color commented on above, they differ considerably in other ways. Most of the dark queens are quiet on the combs and, if little smoke is used, easy to find, though, of course, no dark queen can be located as easily as a yellow one. Their workers are quiet and easily handled. A small percentage of these dark queens are most difficult to locate, hiding in out-of-the-way spots, and an occasional colony of their workers are nervous and excitable, forsaking the brood and crowding to the edges of the combs. The yellow queens, however, without exception, behaved very much as Italians, were easy to locate, quiet and mothers of splendid workers.

These hybrids are the gentlest bees I ever handled. Our entire crop of comb honey was removed without the use of a bee escape. During the honey flow one could remove the hive cover, lift out the completed frames of sections, shake and brush the bees off on the ground all without the use of smoke. The fire in the smoker usually went out, since working in this manner for several hours at a time without any stings we had no use for it and forgot it existed. I have had Italians so cross that, even after giving them lots of smoke, to shake a frame in front of the hive was the signal for a general onslaught resulting in a score of stings.

The workers from the yellow queens were not only extremely gentle but very beautiful in appearance, being fully as large as Italians and of a light bronze color. A swarm moving into a hive in the sunlight resembled a moving mass of coppery gold.

For our early and short honey flow it is necessary that bees build up very rapidly in the spring, and some Italians are too slow in this respect. These hybrids build up very rapidly and if sufficient room is given, are not inclined to swarm any more than the Italians, although in their preparations for swarming, cells are, I think, somewhat more numerous and finer in appearance than those built by the Italians.

With the original Caucasians we had some evidence of the extra amount of propolis used at the entrance, this material being darker and softer than that produced by the Italians. But when the entrance was contracted to about ⅜ inch high by 3 or 4 inches long, the trouble ceased. The hybrids, however, gave no trouble from this source no matter what the size of the entrance.

After all, the main consideration is the amount of honey produced. Are these hybrids superior to the Italians in honey production? Provided they are of equal strength numerically and have bees all of about the same age, I doubt if there would be very much difference in the amount of honey produced. But they do not come up to the main honey flow the same strength as the Italians. Some of the Italians are slower to build up whereas these hybrids built up very rapidly, some of these colonies being so strong by the middle of June at the commencement of the honey flow that a brood chamber on which was placed four comb honey supers would be literally crowded with bees to the roof. This season one such colony yielded 235 finished sections, others running around 100 sections and that during one of the shortest seasons known, lasting a little more than three weeks.

Caucasians are "hustlers," rapid in flight and "mind their own business," being but little inclined to interfere with other colonies, very hardy and gentle. In comb-honey production they have one excellent characteristic, being inclined to

work only on such sections as they feel able to finish. In the last super put on some of these hybrids would work on and finish only the four section-holders from one side to the center, leaving the rest of the super untouched, whereas Italians usually spread clear across the super, resulting in a lot of unfinished sections should the honey flow suddenly taper off. Towards fall these hybrids were all heavy with stores and required no feeding.

In my experience the claim that the introduction of some Caucasian blood into an Italian yard produces a fine strain of bees is verified; and, if by crossing with the Italians the resulting strain holds the excellent traits listed above in combination with the color, size and disease-resistant qualities of the Italian, a very fine strain of bees is produced.—W. A. Rowland, Weston, Ontario.

[If we mistake not, the first cross between two races of bees is likely to be satisfactory. Further crosses may result in bees of inferior quality.—Editor.]

EXTRACTING BAIT SECTIONS

It Pays to Extract Honey from Partly Filled Sections

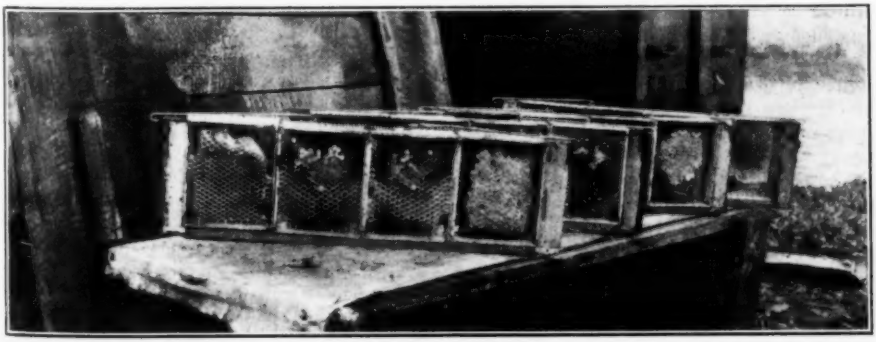
Unfinished sections are a serious problem in the production of comb honey. Whether they are sold in bulk by the pound, cut up for chunk honey, or melted up, the sections together with all the work that went into their preparation are generally a dead loss. The only way to use them to advantage is as bait sections; but if the bees are depended on to clean them out both the comb and the wood become so travel-stained that they show up the following year as off-grade, thus merely carrying the loss over to another year. Only by extracting the honey and carefully storing the sections can they be kept clean enough to make a first-grade product the following year.

Where this can be done easily the beekeeper will often find it to his advantage

With a spring across the top, a section-holder full of sections may be uncapped and extracted like a shallow frame.

to extract not only the culls but also the No. 2 sections, thus removing from the market a grade that always has a demoralizing effect on the price. And here is a way to do it easily:

Make two hooks about five or six inches



Two hooks connected with a spring make a shallow frame out of a section-holder. Apply one of the hooks to each end of the section-holder as shown.

long out of ordinary smooth fence wire and connect them with a short coil spring, or elastic band. Fill the section holder with sections to be extracted. Stretch your hooks across the top and hook one over each end of the section holder, as shown in the picture. The tension should be strong enough to keep the hooks from slipping off and to hold the sections in place.

The holders full of sections may then be handled like shallow frames—uncapped, extracted, replaced in the supers, given to the bees for a few hours to be cleaned up, and stored safely way for another season.—W. H. Hull, Vienna, Va.

GRANULATED HONEY AS STORES

Tests Show That Winter Loss of Bees Not Directly Caused by Granulated Honey

Winter stores within the sweet clover-alfalfa region are subject to considerable granulation. Beekeepers have thought this situation to be partly responsible for the winter losses occuring in the Intermountain region. Inasmuch as bees have been wintered on sugar candy, both hard and soft, limited tests were begun in 1932 to determine the ability of bees to utilize honey solidly granulated in the combs and also the effect of the size of sugar crystals.

Combs of solidly granulated honey produced the previous season, containing empty cells for the formation of the cluster, were substituted for the combs of two normal colonies. A third colony was given honey that had been finely granulated under controlled conditions, as described by Dyce, by smearing as much of this honey as possible into the cells of dry dark brood combs. A shallow super containing a larger quantity of this honey was also provided, and the frames were wrapped with paper to help retain this honey until the bees needed it. The paper was broken in several places, so that the bees would have no difficulty in removing it as they moved onto these stores.

These colonies were examined from the top of the hive about once a month throughout the winter. All three were apparently in normal condition at all times and survived the winter in normal strength. The stores in the colony wintered on finely granulated honey, ran low about the first of February and a super of solid naturally granulated honey was added, since the other two colonies were utilizing this form readily. Only a negligible quantity of dry crystals of sugar was thrown down onto the bottom boards.

Even these brief tests show that granulated stores are not directly responsible for the winter loss of bees. The winters in this locality are severe, and the winter of 1932-1933 was no exception. It is doubtful if in practice colonies ever have to winter on combs of solidly granulated honey.—C. L. Farrar, Associate Apiculturist, Laramie, Wyoming.

COMMENTS ON CURRENT ITEMS

We have experienced the heaviest loss of bees in many years. An apiary that for years wintered with remarkable success and a year ago wintered 100 per cent, lost about 30 per cent of its colonies this past winter. The reason was apparent. After the clover honey was taken off the owner followed his usual custom of putting on a super of extracting combs to catch the fall flow. On account of the abnormally dry fall and the complete failure of fall honey, very little brood was produced after the clover flow. In this apiary of 50 colonies not more than 10 pounds of fall honey was found in all the fifty supers. About three miles away in exactly the same kind of hives and packing, practically the entire apiary wintered in good shape. This apiary was located near a swamp in which there was plenty of fall bloom and the bees went into winter quarters with young vigorous stock.

I think Mr. Floyd is right in regard to the method of shipping queens. I wonder if many of us realize what Mr. Floyd has been to the beekeeping industry. A few years before he accepted the position of Provincial Apiarist for Manitoba, I spent six months there. At that time I doubt if there were more than one hundred colonies of bees in the province. Mr. Floyd was then Provincial Apiarist of New Brunswick. Some time ago he told me how he got the appointment. Mr. Floyd was living at home on his father's farm, and had put in an acre of strawberries. In the spring, when the field was a mass of bloom, a frost turned every blossom black A warm rain came next day and soon the field was again in bloom. The way his bees covered those blossoms was a sight to see. Mr. Floyd cleared $1000 from the acre of strawberries. He wrote it up for

an agricultural paper, and then received a letter from the Provincial Lieutenant-Governor asking if he would accept the position of Provincial Apiarist for New Brunswick.

In regard to beeswax for finishing on hard woods, about 20 years ago we built a bungalow on our adjoining lot. The inside finish was of red oak. We added a small quantity of burnt umber to the filler in order to bring out the grain. We then added to one part turpentine two parts melted beeswax which was applied with a piece of cheesecloth. The beauty of this wax finish is that a scratch does not leave a white mark. In over twenty years this finish (except of course in the oak floors) has not needed renewing, nor is there a mark of any sort or a stain on any of the finish.—J. F. Dunn, Ridgeway, Ontario.

SPINSTER JANE SAYS—

Spring has come at last with its warm breezes, laden with the fragrance of upturned soil and woodsy odors, but, woe is me! as yet no sweet humming of honeybees.

I miss the bees greatly. To me their hum is sweeter, deeper, than the songs of the robin and wren that nest with us every year; lovelier than the swooping flight of swallows.

But soon we will have them here again. Our new colonies should soon arrive, and everything is in readiness for them. Even old Nature has done her bit. The willow catkins are big and heavy with gold. The alder tassels, too, drip golden pollen, and our first shipment of nectar is expected any day now, in the form of that humble flower, the dandelion.

The first dandelion brings quite a thrill to our winter-jaded hearts. Notice, too, how it attracts the little children! In they toddle with a few golden blossoms gripped tightly in dimpled fists—a bouquet for mummy or auntie Jane.

I would not like to imagine this old earth without the hum of bees. It would be a dull, drab place indeed, especially to the beekeeper. He would find himself listening subconsciously, for something missing, something necessary for his utter peace of mind.

We all, perhaps, have our special ideas of what Heaven really is. I, for one, do not believe it will be just a place to lie about idly, singing, or listening to the music of the angels, playing their golden harps.

Heaven, I like to fancy, will be just a purged, glorified earth; a great college into which we have been graduated, to work out a post-graduate course, under the directorship of the great Master. It will have everything that made earth beautiful, laughing streams, whispering trees, fragrant flowers, singing birds, humming honeybees.

Just fancy anyone content with nothing to do in the line of work, for all eternity! Of course, in Heaven, which will be like a great Technical School, there will be everything to do with; the tiredness and pain will not follow our hardest work. We will be successful in our chosen work, always going ahead, growing, developing, under the greatest of all Teachers, the grandest Dean, our Heavenly Master.

To all who mourn the passing of our late beloved editor and beekeeper, isn't this a glorious thought? He has crossed the Styx a little in advance of the rest of his party. You can not see him because of rising mists from that cold river, but you know he is there, just a little beyond. He is surely among his well-loved bees and flowers, busy studying and learning new ideas, new truths. What a deal he will have to impart to his friends when they meet again. With the companionship, the love and trust of the Head, will he not be happy in this his eternal Alma Mater?

With all due apologies to our beloved Longfellow, let me parody slightly, a couple of his verses from "Resignation":

With hum of bees and fragrant flowers about him,
By heavenly Master taught,
He learns new lessons, learns a deeper meaning,
In things once set at naught.

Day after day, we think what he is doing,
In those bright gardens, there,
Year after year, his study he's pursuing,
Free from all earthly care.

Thus we may walk with him and keep unbroken,
The bond which nature gives,
Thinking that our remembrance, though unspoken,
May reach him where he lives.

—Spinster Jane.

From North, East, West and South

SOUTHERN CALIFORNIA.—There is an old saying, "April showers bring forth May flowers." If May flowers have to depend on April showers in southern California this year, we will not have many flowers. No rain of any consequence fell during April. From all parts the reports are the same, light rainfall, little snow on the mountains, and streams very low for the season of the year.

The Drouth Is Still On.

At this date in good seasons we should have our orange honey, mesquite and black sage pretty well harvested, some honey coming in from buckwheat, alfalfa, purple sage, deerweed and many other flowers and shrubs. As it is, mesquite is reported as very short, orange as reported last month, about one-half of last year (which was a half crop), black sage nothing at all, and wild buckwheat drying up. Thousands of colonies were moved to the orange with the hope of getting some honey. Here is where that "life saver," the automobile, comes into the picture. Some are moving to the alfalfa fields around Palmdale and Lancaster, some to the Palo Verde valley, some to the Imperial valley, and some to the river bottoms.

Wherever a beekeeper thinks he can make a little honey, there he goes. Before the automobile, bees could not be moved easily, so it was a case of the survial of the fittest.

While honey prices have not advanced very materially the market is firm. Beeswax stays around 16 to 18 cents and with the short crop should advance in price. With reports of short rainfall and drouth over much of the United States, it seems only reasonable that the demand should take care of the supply without the government buying up any surplus. Crop loans have been a great help to many producers and are a good thing if they do not get the farmer in the class of the speculator by his holding his crop instead of disposing of it at the time it is harvested. We have held our honey at times and it has not proven profitable. As a rule, producers are poor speculators. It is a good time to sell when the other fellow wants to buy.—L. L. Andrews, Corona, California.

NORTHERN CALIFORNIA.—Of all of the honey months of California, May and June are the most prolific of guesses as to what the honey crop for the year will be. During this time beekeepers from the various parts of the state calling at the office of the State Association, make about as many different reports of what they expect in the way of crops as there are reporters. One tells us his district will produce a bumper crop and the next tells us that the beekeepers of his locality will soon be feeding their bees to keep them from starving.

In the eucalyptus and fruit blossom districts the crop was good and the bees are in fine condition for the alfalfa fields. Unfortunately, the district is small. The orange fields of the northern part of the state have little or nothing to report, and reports coming from farther south are far from encouraging. Our final report on the honey crop for 1934 is still in the future.

The most encouraging sign today is seen among our younger beekeepers who are giving earnest study to the economics of beekeeping. They are learning how to increase production and at the same time decrease costs. Prices are low but they have learned that they can come out on the right side of the ledger by practicing efficient production and the distribution of a standardized, high-class quality of honey.

Many of our beekeepers are awakening to the fact that producers are the logical ones to support the American Honey Institute and they are planning to do their part. This is looking at this matter rightly, and acting will be a boost to California honey. There are more people talking honey today than at any time in the past.

Our queen and package bee producers are religiously living up to their code and all report good business. Some have not been able to accept all of their orders. Beekeepers are introducing more young queens than usual.

The work at the U. S. Pacific Coast Laboratory at Davis goes on as usual to the general satisfaction of the beekeepers.

For many years complaints have been quite common that the University of California was not doing enough for the beekeeping industry. This is all changed and we hear nothing but the highest praise for the work of Dr. J. E. Eckert and other professors who have done so much good work for us during the past five years.—C. W. Hartman, Oakland, California.

OREGON.—Due to the fact that Mr. Burrier was assigned to special work in connection with the corn-hog program in Oregon, the proposed trip by Mr. Burrier and the writer to various parts of the state of Oregon to discuss the results of the honey cost studies, has been postponed until next fall.

With the mild winter and early spring, bees have come through and built up to exceptional strength for this time of year. Honey flora is also far in advance of the normal season. The alsike and white clover is now, May 2, in full bloom and the flow from these plants is due to start almost any time. Continued cool and rainy weather during the past week or two has kept the bees from working on vetch, which would be yielding nectar if the weather were suitable.

The honey market seems to continue about as it has been for some little time. There is comparatively little honey moving, but practically the entire crop is cleaned up.—H. A. Scullen, Corvallis, Oregon.

KANSAS.—This state has experienced an extremely dry fall, winter, and spring, with an accumulated deficiency of soil moisture somewhere between 25 and 30 inches, over a period of two and a half years. The sweet clover in southern Kansas which was grown with oats last spring was killed out in the hot weather. Sweet clover which was not grown with a nurse crop came through the dry hot weather of last summer and is showing a good growth at this time. This part of Kansas has had more rain this spring, which has produced the good growth of the sweet clover plants.

Northern Kansas has not had as much rainfall as the southern part of the state, and is also suffering from a lack of soil moisture. If rains can be had at timely intervals in the future, the honey producing plants will make good growth and secrete nectar.

Just now, May 8, Kansas and the Plains area are experiencing rather abnormal, hot weather. The maximum temperatures have read 90 degrees or more for three days, and the prospects for one or two more days of like temperatures are good. Many plants are being scorched due to this excessive hot, dry condition.

Much of Agricultural Adjustment Act allotment land has been planted to sweet clover. The prime reason that it has been planted to sweet clover instead of alfalfa is the fact that the seed was lower in price. This will indicate that in the next year there should be many fine areas for bee pasturage.

Many of the larger beekeepers made increase during April by making an equal division of colonies and placing a new queen with one of the divisions. This method of increase works successfully when carried out during April in Kansas. In the southern part of the state, this increase should be made before April 15, and in the northern part of the state, should be finished by May 1.

The beekeepers of the United States have lost a good friend and worker in the person of Geo. S. Demuth. His loss will be felt more in the future than at the present moment. It is a pleasure to hear that Jack Deyell will carry on the work of Mr. Demuth in editing Gleanings in Bee Culture.—R. L. Parker, Manhattan, Kansas.

NEBRASKA.—The driest winter, with one exception in 1930, since 1898 has been followed by the driest April in twenty-four years. The usual April showers have been replaced by terrific wind and dust storms. This following a moisture deficiency over a period of several years makes prospects for even one-half of a 1934 crop discouraging unless rain comes soon and abundantly.

Reports from irrigated districts, too, are not encouraging. Due to light snowfall in the mountains little water is available for irrigation purposes.

Winter losses have run high this year as a result of a very warm and open winter. Some of these losses were due to very heavy consumption of stores and others to starvation caused by prolonged cold weather.

A few balmy days in February afforded opportunity to feed starving colonies. Much feeding has been done and will probably need to be continued. Dandelions, usually an important source of early

nectar, yielded little this year. Fruit bloom, very important in the interim before our main clover flow, has been attended by much cloudy weather, greatly hindering work upon the blossoms.

Numerous small beekeepers are discouraged and are selling their bees and equipment. Some of these yards are being absorbed by the larger producers. These same small beekeepers readily admit there is much more demand for honey than in the past. But prices are too low and they are not willing to stick with the bees.

Honey prices are firmer and little or none of the old crop remains in the hands of the producers. Comb honey is very scarce. Wax prices are also higher. Our University of Nebraska has included recipes for waxes and polishes, in the Women's Extension Club lessons. These recipes call for beeswax as an ingredient and this new demand has resulted in good sales for many beekeepers.

Word has been received of the official stamp of approval on loans to beekeepers. Loans may now be made, according to this report, through the Production Credit Corporation and the money may be used for any expense connected with the upkeep of the apiary or the production of the crop. Beekeepers are now on a par with other agricultural classes.—Benj. Nielsen, Aurora, Nebraska.

NORTH DAKOTA.—Spring, although slow in putting in its appearance, has begun in real earnest. The first part of May the weather was warm and sultry, but during the month of April, high windy weather, unsuitable for bee flight, prevailed. The lack of adequate rainfall, together with the winds, brought about a very unpleasant condition, namely, dust storms. This condition is said to have contributed largely to the decrease in the usual acreage of small grains throughout this area. Heavy rainfall is needed for the growing crops and for putting honey plants into satisfactory condition. It will take some time, however, for rainfall to undo the damage caused by the drouth of the past few years. The dry weather has practically eliminated sweet clover from the southeastern portion of the state where, in years previous, this section of the country was noted for its abundance of sweet clover and honey from that source. The commercial beekeepers of this area have been gradually moving farther north where conditions for beekeeping have remained more satisfactory.

Recent examination of colonies shows that they are building up nicely under the influence of the warm weather, together with the stimulation of early nectar and pollen from elm, maples, and a few other early sources. Dandelion bloom has just started to put in its appearance but will probably be of little importance until later.

Package bees began to arrive in Fargo on April 19. They came through in excellent condition, and a later examination of package colonies established at that time shows that they have plenty of brood and give promise of soon becoming strong colonies.—J. A. Munro, Fargo, North Dakota.

IOWA.—The drouth is the outstanding topic among honey producers. The weather bureau reports that the state is the driest on record in 40 years. Only three or four scattered showers have occurred to date during the spring.

The bees which survived the winter seem to be profiting by the excellent flow of miscellaneous fruits and dandelion bloom. Conditions have been ideal during the fruit bloom period and wherever bees are available it is expected that the set of fruit will be excellent. Robert M. Clark of Mitchellville, one of the progressive orchardists of the state who has always been an advocate of bees, is happy over the prospects for the 1934 crop in his orchard. His bees have had a most wonderful opportunity for flight and it would seem as though every bloom has received a visit from the bees.

Those producers who have received package bees this year have been well pleased over their activities in early spring building-up. The bees seem to arrive with more vigor than is shown by the over-wintered colonies. Of course the tests that have been made show the yield of package bees is equal to that of the average wintered-over colony and, of course, better than a large number of colonies and slightly under some of the best wintered-over colonies. There is still some discussion as to the time of arrival, but the average for the state would be about April 23.

The large consumption of stores during the winter and early spring has resulted in the bees cleaning out all the corners and their food stores with the result that

considerable disease has shown up which probably has been lying dormant in the stored honey for several years. It is only to be expected that during periods like this the disease will be more evident than at other times. Of course, there is an increased interest on the part of producers in finding the disease and this accounts for more requests for information on the disease and its treatment.

The inspection service has been able to add temporary help for inspection work in three counties in the western part of the state. Mr. A. L. Brown of Salix, has received this appointment. The work will be somewhat in the nature of survey work and will cover the territory between the two small areas where intensive work has been under way for several years. This will enable the inspection service to consolidate the work into a rather large area in the western part of the state. The cooperation of the producers is most excellent and this is really a fundamental for the development of any clean-up work among bees.

The amount of sweet clover which is being grown is not as great as was originally anticipated in connection with the corn-hog reduction program. The price of the seed is too high to prove attractive to a large number of producers. It is only in the sweet clover area where the farmers in general are sweet-clover conscious or have been educated to this in their routine of farm management that there is any great interest in sowing a crop. As a matter of fact, it was originally hoped that a large number of producers would be interested in some soil improvement program as a part of this reduction campaign, but as time goes on it is evident that this soil improvement program must wait for another and perhaps greater incentive. At the present time there is a great desire to obtain the most immediate returns from land rather than to anticipate future returns by soil improvement.

The supply of honey in this state is almost entirely cleaned up. The demand for honey has improved very materially, probably due to the work of the American Honey Institute. It is to be hoped that the producers of this state will more fully appreciate the effort of the Institute and become interested in taking a part in its support.—F. B. Paddock, Ames, Iowa.

WISCONSIN.—The prospects for a honey crop throughout the northern part of Wisconsin are not very bright because the drouth conditions of the past two years and practically no rain this spring in certain sections provide a very serious outlook for this season. Many of the farmers are securing the necessary feed for their stock through relief funds, but some cases are reported of stock having actually died from starvation. Last year crops were reduced by drouth, and grasshoppers destroyed a good portion of what was left. Surveys made this spring indicate a similar condition may occur this year because continued drouth is apparent and the grasshopper population will be abundant. Forty thousand dollars has been provided through federal funds to buy bait for grasshopper control, and the northern part of Wisconsin is being completely organized by counties and townships for the spreading of this bait.

The prospects of a crop from clover are extremely meager, and the same condition is true in the southern part of the state, except the southeastern corner where considerable honey may be expected from sweet clover and alfalfa. Even this crop may be limited unless there is some rain at an early date.

Reports of winter losses continue to come in, due mostly to dysentery. Much of the honey has candied in the combs, and instances are recorded where bees evidently starved with large areas of honey crystals from which the liquid honey had been removed.

The many friends of Miss Lavonne Taylor, who is now Mrs. Clarence Ewald, will be sorry to learn that she has resigned from the American Honey Institute to accept a position with the First National Bank of Madison, but when better opportunities come, one is justified in accepting them.—H. F. Wilson, Madison, Wisconsin.

OHIO.—This was the coldest and longest winter on record in northwestern Ohio. The thermometer often was as low as 20 degrees below zero. In spite of the cold winter bees have come through in fairly good condition. In some localities large losses are reported. Some beekeepers have lost 50 per cent of their bees. Where bees were well packed and had sufficient stores the reports are more favorable. In our own yards our losses are about 4 per cent. Most of our bees are running short of

stores but at present the weather is warm and the bees are starting to work on dandelions and fruit bloom and are bringing in considerable nectar. If the weather will remain favorable for the next ten days it will mean quite a saving to the beekeeper in extra feed. Bees have consumed a considerable amount of stores this winter. The last three weeks of April were abnormally cold and brood-rearing has almost come to a standstill, but at present things are looking considerably brighter.

The clovers have come through the winter in very good condition, but moisture is badly needed at present. If rain comes soon and weather conditions become normal we should secure a bumper crop this season. Bees will be somewhat behind in colony strength on account of the unfavorable weather conditions through April, but with the approach of warm weather bees will build up fast and should be in good condition by the first of June.

Many packages of bees are being ordered to replace winter losses. Our bees were left in their packing cases longer this spring than usual on account of the cold and backward spring. We believe it was beneficial to the bees.

The old crop of honey is all sold out. The demand is good. This should be an encouragement to beekeepers as the new crop should find a ready sale.

The Tri-County Bekeepers' Association has elected new officers for the following year. The new officers are: R. J. Porter, Delphos, Ohio, president; Carl Lampware, Delphos, Ohio, secretary.

Beekeepers are now busy unpacking their bees and are getting ready for the season's crop. We are looking forward to a good season and the outlook is encouraging.—Fred. Leininger, Delphos, Ohio.

TEXAS.—The weather for the month of April, while cool, cloudy and rainy must have been very agreeable to the bees. Swarming was very common the first week of the month. Then came a period of heavy rains which kept the bees at home. The middle of the month the honey reached such a point that a surplus of 22 pounds was stored. A rainy period brought an end to this flow, but, from the fact that all plants which should have bloomed in March are now in bloom (May 5), and that plants which should have commenced to bloom the first of June are now blooming, the indications are that the regular honey flow for southwest Texas will begin in a few days. The first flow was principally white brush. The second flow will be horsemint and mesquite. New bulk comb honey is already on the market and is retailing at ten cents a pound. The quantity is sufficient so that out-of-state shipments are being made. The earliest date for a swarm reported here this spring was March 25 and the earliest taking of honey for commercial purposes was April 12.

The daily press of April 30 gives the news of the death of Henry Brenner. Mr. Brenner was quite prominent in beekeeping affairs in Texas, Porto Rico, Haiti, and other West Indian islands locations during the past twenty-five years. He at one time had charge of the Seguin yard of the Texas Agricultural Experiment Station.

Several feature articles relative to beekeeping have appeared during the month in the papers of the Southwest, all of them stressing the superiority of the location from which the article originated. To the reader of all of these articles the one thing which appears evident is that in Texas the location of bees is determined entirely by the beekeeper and not by the adaptability of the location to beekeeping. A study of the history of beekeeping in Texas bears out this statement and offers much encouragement to those who would take up beekeeping as a pastime or as a vocation. There are but few places in this state where beekeeping can not be carried on profitably if the man who owns the bees is interested in them and will give them the attention which they need.

The value of the honeybee as a pollinator of fruit was very definitely shown this spring in this part of Texas in the set of fruit found on various varieties of wild plums. One of the earliest of the wild plums to bloom here grows to be quite a large tree and bears a profusion of flowers long before the leaves and before other plants come into bloom. Two weeks later two other varieties of wild plum come into bloom accompanied by dozens of other plants. The weather during the blooming of both plants under observation was very similar. The first bloom which had no opposition in its entertainment of honeybees set a very large number of fruits. The later blooming trees which on account of large number of plants in bloom entertain but few bees, have set scarcely enough fruits to know

that the trees are fruit bearing.

Guajillo, the most famous honey plant of Texas, has borne a small number of flowers since November 1, 1933. It came into its regular blooming period April 13, reached its climax on April 18, and was out of bloom April 30. White brush, the famous bee bush of southwest Texas, came into its prime bloom on April 10 and went out of bloom April 27. From this time on this bush will bloom every time there is a rain of one-half inch or more but the blooming period will not exceed three or four days—H. B. Parks, San Antonio, Texas.

ALABAMA.—1934 will long be remembered by package shippers as being a season of extremes. A few days of balmy spring weather was on several occasions followed by severe cold that almost spoiled the work done during the good weather. Queen production at times was three times what it was at other times so that shippers did not know what to do about booking orders. Even the most reliable shippers have been several days late filling orders. Some packages were shipped early, but many customers who delayed ordering and requested immediate shipment were disappointed.

Demand for packages has been the greatest since the period following the World War. Shippers have had all the business they could handle and have turned down many orders.

The reports are that the truck shipments arrive in fine condition where they are in the hands of experienced beekeepers and are properly cared for enroute. Only a small percentage of the bees have moved by truck so far but if the express companies do not make some concessions to compete with the truck shipments there is little doubt that the business of trucking bees will grow.

The truck shipments have some advantages and some disadvantages. They are usually in charge of an experienced beekeeper and are handled somewhat better than express shipments and are delivered direct to the customer instead of being held in an express office till the customer can be notified. It is difficult for the larger shipper to put up a truck load of bees at one time and it is impossible for the smaller shipper to handle these shipments. If the entire order can not be prepared at one time the order can not be split as is the case with express shipping.

Several years ago it was suggested that package shippers deliver their bees by truck but this is impossible as the shippers can not spare their men and trucks at that time of year. The customer has little to do before time for packages to arrive and can afford to take time to truck them through. Most northern beekeepers enjoy a trip south in the spring when they have the opportunity of seeing the package business in operation. The express charges saved by having a load of packages in a trailer behind a pleasure car will help finance the trip. — J. M. Cutts, Montgomery, Alabama.

MICHIGAN.—A cold, late spring has held back both bees and plants. Extremely warm weather for the past week caused bees to expand rapidly and blooms opened quickly only to meet a freeze of 28° last night which "burned" down much of the new growth of plants and caused considerable injury to fruit buds.

A serious drouth has set in in some districts, although a light rain helped several sections of the state. The prospect of a crop is problematical yet, depending mostly on moisture. Many reports of heavy winter loss are balanced by reports of colonies in good condition. Well packed colonies with good queens and lots of honey stood the test. But there has been plenty of spring dwindling.

In the northern part of the state, rains came before the frost left the ground and some damage was done by drowning and smothering of colonies.

Honey is pretty well cleaned up. In fact, several cars of western honey have been brought in. The market is steady and inclined to rise slowly.

The work of organization continues. The Fifth District alone remains to be organized and that will soon be accomplished. A full list of officers will be announced in the next issue. Much enthusiasm has been shown for the new plan and one county, Cass, has gone so far as to organize right down to the townships, with a representative appointed for each township.

The enthusiasm of organization is best indicated by the vigorous campaign being carried on in District 4 where President Jay Cowing and Secretary Colin C. Nillis have been out campaigning with the result that about 35 new mem-

bers have been signed up during the past week. They say they will have 350 members by fall.

And down in Detroit, Emrick Koesis, father of the golf champion, "Chuck" Koesis, and president of Wayne County Beekeepers' Association, has the record for individual memberships sent in to the State Association. Koesis takes blue ribbons at the State Fair exhibit and preaches good beekeeping to everybody.—R. H. Kelty, East Lansing, Michigan.

VERMONT.—The first week in May brought with it the first warm weather of the year, permitting an examination of the bees. Needless to say, the loss of bees this past severe winter has been large, in many cases as high as 80 per cent. In almost no case was the loss due to shortage of honey; but, due to the long, steady, severe cold, bees starved with honey just an inch or two away from the cluster.

Clover seems to have wintered somewhat better than the bees, though that, too, has been killed out badly in some places. Alfalfa has wintered very well as a rule. It has always been taken for granted that alfalfa does not yield honey in the East but the past two summers show this is a mistake. It is due perhaps to the dry weather, but alfalfa yielded very well, about the only thing that did yield, the honey being water-white and mild-flavored. It is only recently that it is being grown to any extent in Vermont, and maybe one of the reasons why it did not yield heretofore, was because there wasn't enough of it.

Dry weather still seems to hang on as it has the past three years. All the spring very little rain has fallen. On May 9 and 10 we had the first rain for several weeks, which came in the form of short, heavy showers. Apparently other parts of the country are even worse off than the East, and if it continues there'll certainly be plenty of crop reduction together with that of nature and the government A. A. A.

In spite of the dry spring (or because of it), there has been an excellent flow of honey from maple and willow, the bees getting better than a living. The dandelion has just started blooming (May 10) in southern exposures and with a little help from the heavens should yield enough to carry the bees until clover.

Honey here is practically all gone and indications are we could accord a heavy crop without any danger of surplus. Such usually is the case—we get a good flow of honey when there are no bees left to gather it.—Charles Mraz, Middlebury, Vermont.

ONTARIO.—This is May 9, and the season is far enough advanced so that a fairly accurate estimate can be made of winter losses of bees in Ontario. Yesterday I noticed in a Toronto daily that Prof. Dyce of Guelph, our Provincial Apiarist, estimates the loss in colonies around 50 per cent, with a big percentage of those left so weakened that they can not build up for the white honey flow. Prof. Dyce should know, as he has better facilities than anyone else to feel the pulse of beekeeping in the Province.

Generally speaking, the eastern parts of the province are much more favored than other sections. Two reasons explain this. In the first place, many beekeepers of the east winter most of their bees in cellars and a cold winter is often favorable for good wintering in cellars. We in the central and western parts of the province winter our bees almost exclusively outdoors.

Prospects for Clover Honey Not Good.

We had little snow all winter and bees were exposed to unusually cold weather with temperatures below zero for weeks at a time. A heavy snow fall in the east means good clover prospects. With little snow to protect the clover, prospects for a clover crop with us are the poorest in years. Winter wheat, a major crop in our locality, is a 90 per cent failure. No heaving is apparent with wheat or clover, and the plants just appear to have frozen to death. In counties bordering Georgian Bay and other isolated localities, where snow protected the crops, the prospects are better.

Our loss of bees is about 20 per cent, with quite a number of weakened colonies. The erratic way in which the various apiaries have wintered is a puzzler to me. We have come to the conclusion that quality of stores was the deciding issue this past disastrous winter. For instance, we have one apiary of 70 colonies in single-packed hives that wintered nearly 100 per cent perfect. Less than three miles

away two good beekeepers lost fully 50 per cent of their colonies and I have reason to believe that the apiaries had proper management last fall. At another apiary of 65 colonies packed in quadruple cases the bees are exposed to the weather. We went there this spring expecting to find half of the bees dead, but we found them in good shape with only four colonies dead. Just a short distance from this yard, we had another small apiary that had always wintered well. About half of the colonies were dead and combs left solid with stores. And so it is all around us, some apiaries are in fair condition and others in bad shape.

The demand for honey locally is dull, due no doubt to the use of much maple syrup. There is little honey left in the hands of beekeepers. The few hundred pounds we happen to have will be kept until we see if any is to be gathered this year. Certainly the prospects with us are the poorest we have experienced for a decade, but beekeeping is a business of surprises, so we are hoping that the surprise this season will be of a cheering nature.—J. L. Byer, Markham, Ontario.

Another Tribute to Geo. S. Demuth

In recent years I have been more or less out of touch with your delightful little magazine and with beekeeping in general. Consequently when a copy arrived yesterday I took it up eagerly only to be shocked at the news of the death of my old friend, George Demuth.

I think it was in the spring of 1909 that I first met him. I was at that time State Entomologist of Indiana and the recent legislature had extended my duties to the field of bee inspection. My knowledge of bees was purely theoretical and largely from an entomological standpoint. I needed a practical "bee man" to take charge of the field work and consulted a number of beekeepers in an effort to find the best man in the state.

To my surprise I found that everyone agreed on one man—George Demuth. In those days politics played no part in my activities and I do not know to this day whether Demuth was a Republican or a Democrat. I only know that I asked him to come to see me and that he impressed me so favorably that I employed him. We did not know that highbrow word "apiarist" (if that is how you spell it), in those days, so we just called George the "bee inspector."

At the very start I felt it was incumbent upon me to buy some bees and learn some of the practical side of the bee business. Demuth found some old log gums near Indianapolis and we bought them and moved them to my home where they were to be transferred to modern hives.

Remember, that I had never handled bees—or even witnessed the procedure of transferring. To my amazement and horror George picked up an axe and, after a few preliminary flourishes, split one of the old gums from end to end. After a time I regained my composure (when I saw that he still lived), and actually helped cut out the old combs and tie them in the new frames.

I will never forget another observation I made at the same time. You will, of course, recall that he had very large, rather clumsy appearing hands, with thick, short fingers. Asking for a small pair of scissors he proceeded to catch the queen and deftly clip her wings. My own hands are slender and have been called skillful in certain things but I never learned to handle a queen bee with the same deft gentleness that Demuth used.

He was so enthusiastic about his subject that before we realized it most of us in the office had the bee fever.

I built up an apiary of something like 100 colonies—which was disposed of for the most part when I moved into these hills where bees find scant "pickings." However, I kept enough to keep alive my interest and still have a few unproductive colonies on the place.

Frank Wallace teamed up with Demuth on the bee work and his enthusiasm has never flagged—and if you know Frank you know what I mean by enthusiasm.

Demuth was a great beekeeper. His work from the very start of his public service in my office was worth a tremendous amount to American honey producers. His scientific attainments are well known. However, it is not for any of these things that I will remember him but for those human qualities of gentleness and kindness and loyalty to his friends. If he had a fault I never found it—and I knew him well.—Benjamin Wallace Douglass, Trevlac, Indiana.

Just News

Editors

The Vigo County Beekeepers' Association will be the host of the Indiana State Association on Saturday, July 14. Mr. Frank N. Wallace, State Entomologist, will be the chief speaker. Meeting place will be announced later.

"Economic Aspects of the Bee Industry" is the title of Bulletin No. 555, September, 1933, University of California, by Edwin C. Voorhies, Frank E. Todd and J. K. Galbraith. It is one of the most informative bulletins ever published, covering data and statistics relating to the many phases of the beekeeping industry in the whole of the United States and particularly in California.

"The Flight Range of the Honeybee," is the title of a reprint from the Journal of Agricultural Research, Vol. 47, No. 5, Washington, D. C. It covers a series of experiments during a period of three years, by John E. Eckert, former associate apiculturist, Bureau of Entomology. The work was done in a wide stretch of prairie west of Laramie, Wyoming, on bad land lying between two irrigated districts supporting growths of alfalfa and sweet clover.

Rev. M. G. Hepner of St. Mary's College, North East, Pa., died very suddenly Monday evening, May 21. A frequent contributor to Gleanings, Father Hepner's last message to our readers was his beautiful tribute to Mr. Demuth on page 293 of the May number. His closing words then are just as true now—"Truly, his memory will be held in benediction, and his praise shall not perish from the lips of men." Father Hepner was by nature a teacher. He loved boys and young men everywhere. Though he taught both German and Greek in the college, the subject that he loved best of all was beekeeping. He had classes in beekeeping in the college (see page 224, April, 1932), and he assisted in club work throughout the county. He was a firm believer in the principle that more and better beekeepers create more general interest in honey. A great student of boys and bees has passed on. Peace be to his memory.

On July 1, Mr. E. L. Sechrist, in charge of the Pacific States Bee Culture Field Laboratory, Davis, California, and Mr. Geo. E. Marvin and one of the clerks of the Washington office of the Bee Culture Laboratory, will be dropped from the government payroll because of curtailment in appropriations. Last year the appropriation of the Bee Culture Laboratory was cut 25 per cent, and an additional cut this year left no alternative but to drop personnel. It is not necessary to dwell upon the fact that the industry can not afford to lose the services of these men, but the fact remains that both will be lost to bee culture. Will the whittling process continue next year, and the year after, until the Bee Culture Laboratory becomes a thing of the past? The answer lies solely in the hands of the beekeepers themselves.

The state foulbrood law of Ohio makes it permissible for County Commissioners to appropriate from their funds an amount that will take care of foulbrood bee inspection work in the confines of the county. The state appropriations for Ohio were cut down to comparatively small amounts. Mr. Reese, the Ohio State Bee Inspector, writes: "Had it not been for the very generous attitude taken by quite a large number of our County Commissioners throughout the state, our apiary inspection work for this season certainly would look like it did about ten years ago. We have 23 counties in which funds have been certified up to the present time. These range in amounts from $100 to $1200; the average being in excess of $300. There are in the neighborhood of six or eight other counties in which we know funds to be included in their budget; but up to the present time, they have not been certified to this Department. I really believe before the season is well advanced, we will be carrying on our work in about 31 to 32 counties, on the county clean-up plan. * * * Quite a number of the inspectors have been working for the past week, and have reported that they have found no disease up to the present time, and this is in a territory that had as high as 60 per cent two years ago. The skeptic who states that burning is not cleaning up the disease is all wrong."

This and That.

We have received a number of inquiries concerning the honeymoon Pansy and her husband, Oscar, took and the writers wish to know if harmony still prevails in the home since Pansy's mother came to live with them. I am glad to report that everything is harmonious, for Oscar just made me a visit and purchased two more cases of honey. He said there has not been a discordant note in their family life with one exception, which he related as follows: "You see, Pansy's mother always keeps her false teeth in a glass tumbler which she puts on the window sill over the kitchen sink, and when I get up in the morning to light the fire I am always greeted with the broadest kind of a smile from that tumbler. One night the wind blew the curtain against the glass which fell on the floor and mother was unable to find the lower segment of her teeth, although we all turned in and helped her hunt for them. She had a hard time expressing her feelings as her enunciation was not good. This was especially difficult when she wished to express her feelings. That afternoon I was hoeing in the garden when lo, and behold, I hoed up her teeth! My pup having discovered them on the floor had endeavored to gnaw them but not making satisfactory progress he had buried them in the garden lest some time he might be in dire need of nourishment, when he would try again."

Moving a Cat

Did you ever move and take the cat along? Well, a cat is the hardest to transplant of anything in the animal kingdom. Our cat was the meekest cat I ever met and we thought when we moved he would enjoy it, but not he. To make it comfortable for him we put him into a bee hive after nailing on the bottom-board, and to provide ample ventilation a queen-excluder was nailed on top. When we started the car that cat set up a great yowling and even tried to gnaw his way out. When we got to our new home that cat seemed to want just one thing, and that was to get as far away from the entire outfit as possible. We tethered him out, but he strained so hard on his leash that we thought he would choke. Then we put him into the house and turned him loose, but he went round the room at great speed trying to get out of every window. It took that cat a week to make up his mind that that was his home. I like cats and there is nothing I like better than a good animated cat fight. I know of no fight where there is so much noise in proportion to the actual blood shed. I admire the way cats fight as they are good sports and fight fair for they always start from scratch. It is said that it is not nice to be the under dog. In my opinion it is fine to be the under cat. When a cat gets into a fight he maneuvers for position and the cat that can get the under positon has a tremendous advantage for he can bring all four feet into action. I once saw that illustrated nicely. We had a white cat whose frayed-out ears showed he had participated in many a midnight battle. One bright moonlight

Pansy's mother's teeth buried in the garden.

night when the ground was covered with snow along came a big black cat seeking trouble. Our cat called the black cat some vile names when the black cat made a spring. Just as he landed our cat rolled over on his back, took an ear of the black cat in his teeth and brought all four feet into play. In less than two seconds ten square yards of snow were covered with black hair. We found just one small drop of blood, but the noise was terrific. So my advice is if you must be under, don't be the under dog but rather be the under cat.

Heads of Grain from Different Fields

Pollen in Sections

In the March, 1934, issue of Gleanings, page 139, the editor mentions using only foundation in the brood chamber in producing comb honey that he might secure a nicer and whiter comb honey than is possible by using old dark brood combs in the brood chamber. Conditions vary, and locality, season or strain of bees make a difference. Whenever I have tried foundation in brood frames under sections the bees work in the sections but always spoil an otherwise nice super of comb honey by storing a lot of pollen in the nice sections. Here is a tip I might pass along. Just wire the frames as when using full sheets of foundation and the bees will build mostly good straight combs and fit them on the wires just as nicely as any beekeeper can a full sheet of foundation. Such wired natural combs make fair combs for extracting when a hand-power machine is used.—Roy Cockrell, Burbank, Ohio.

[When a swarm is hived on frames of foundation it is an advantage to leave one or two drawn combs in the brood chamber for the storage of pollen and to avoid having it stored in the comb-honey sections. During a slow honey flow bees may build fairly good combs of worker cells in wired frames with inch starters. However, during a rapid honey flow bees build drone cells rather than worker cells.—Editor.]

Boys Succeed with Bees

Elton Newman of York, Nebraska, has been doing some excellent work in instructing young boys. The Bee Club, of which he is leader, consists of a membership of six boys and a total of seven colonies of bees. Three of these boys started with package bees. Four of the boys produced comb honey only. Three of the boys produced over one hundred pounds per colony and the other three an average of about fifty pounds per colony. One boy was unfortunate in losing the queen in his package and produced little honey. Two members made an increase of one colony each.

Mr. Newman states that most of the boys were able to pay out almost one hundred per cent. This is a very good record taking into consideration the inexperience of the boys and the fact that the season was a very dry one.

These boys, with their leader, held demonstrations, at both county and state fairs, winning first place in the county and second in the state. All of the boys plan to continue the work next year.

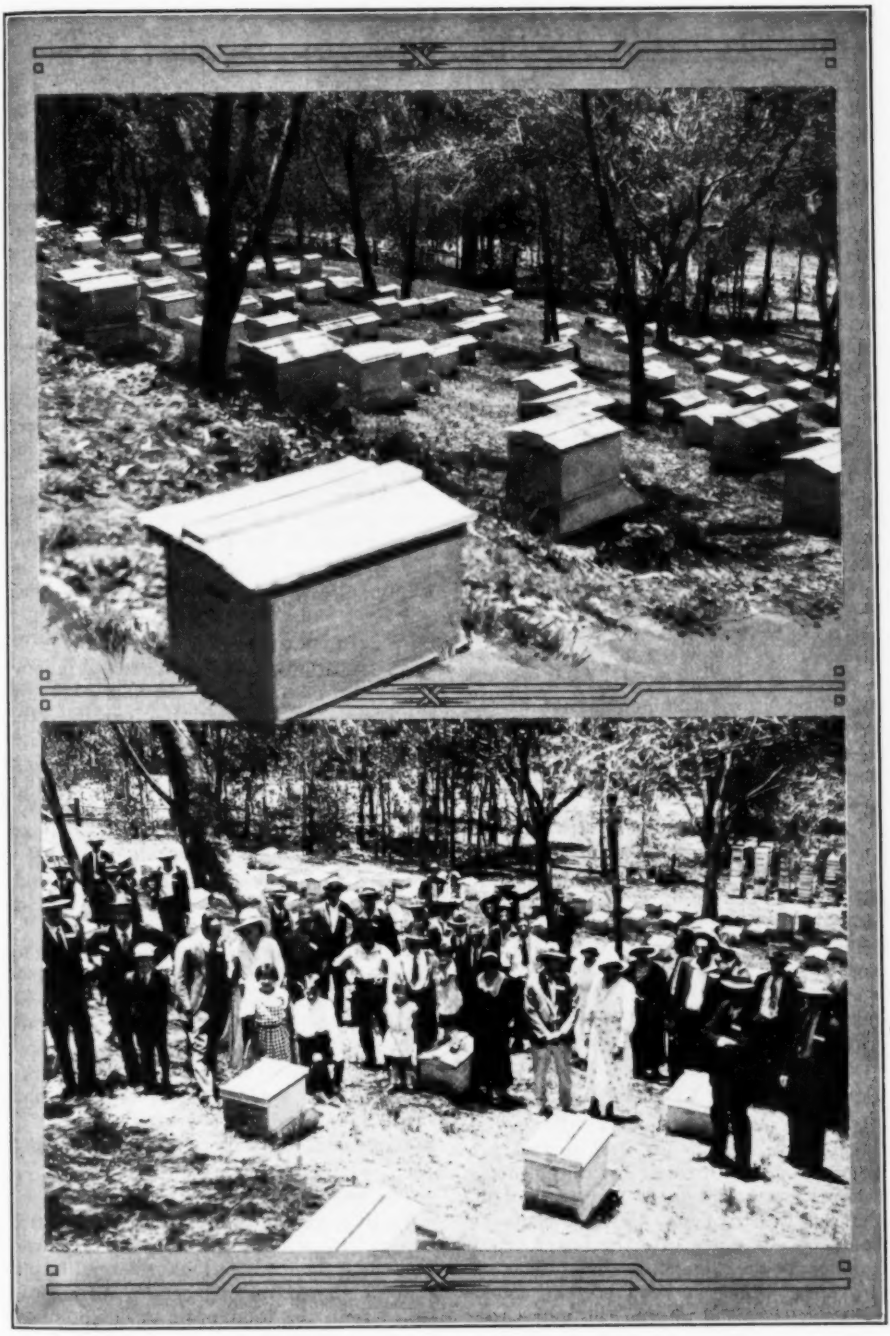
What better way of keeping boys occupied and thus out of mischief, being assured they are learning something worth-while? Most boys have a lively curiosity about bees. When they begin to learn something concerning their habits and find they can manipulate the bees without much danger of being stung, they are anxious to learn more and put into practice the knowledge gained. They are interested in reading books and bulletins and comparing notes.

Another angle that appeals strongly to the boys is the fact that in comparison with numerous other activities, small capital is required to make a start—no large tract of land or buildings. Even town boys can make the start and should this activity prove more than a hobby, space for an out-apiary may be secured, the rent being paid in honey.

Whether it proves to be a hobby or a vocation it is a decidedly profitable expenditure of time for the boys.—Mrs. Benj. Nielsen, Aurora, Nebr.

Another Queen Stays On

In Gleanings for April I read with interest under the head "The Old Queen Just Stayed On," of the removal of several young laying queens from a colony which was superseding its old queen. I have a colony from which I have removed no less than six splendid young laying queens at intervals of four or five weeks. The first was removed in November, 1933, and the last two days ago. I, like the writer of the article, have been removing these young queens as soon as they started to lay, so as to find out how many times another queen will be reared and kept long enough to be mated and removed before the old queen dies or is destroyed.—K. C. Bose, Demerara, British Guiana.



Upper—A corner of one of the apiaries belonging to F. L. Jones, of Goodna, Australia. These hives remain in the same condition throughout the year. Lower—A meeting of Australian beekeepers in the same apiary.

Talks to Beginners

M. J. DEYELL

In many localities in the South, the greater part of the season's honey crop may have been harvested. But throughout the greater portion of the United States and Canada, the main honey flow should begin some time this month.

As mentioned in the Talks to Beginners for May, beginners should ask experienced beekeepers in their localities when the main honey flow may be expected. In alsike and white clover regions the flow may not last more than three or four weeks. In sweet clover regions it may last from six to eight weeks. It is extremely important, therefore, that colonies be very populous in bees early, so that they may take advantage of the comparatively short honey flow in alsike and white clover regions. As a rule, in clover regions the main flow starts 10 days after the first clover blossom appears.

When the main honey flow starts, bees will be found working with greater vigor and there will be an unusual activity at the entrances of hives. Top-bars of frames in the brood chamber will be whitened and the cells in the upper portion of the combs will become elongated. An examination of the brood chamber may show that most of the cells in the combs are occupied with either brood or nectar.

To secure a crop of honey, two important factors in management must be kept in mind. The first is proper supering, which means supplying supers at the right time and arranging them properly. The second is swarm control. If supers are supplied at the proper time and if bees can be kept from swarming during the main honey flow, a good crop will be secured, provided, of course, the bees are superior in honey-gathering qualities.

Supering for Extracted Honey

It is usually customary at the beginning of the main honey flow to find the queen which may have access to the combs in two supers (if a super has been added during the early honey flow). The queen should be put down into the lower brood chamber, below a queen excluder. The upper super, which may have some combs of brood, is raised up and the new super is placed directly over the queen excluder. After nine days the combs in the top super should be examined to destroy queen cells that may be started.

A second super is added as soon as the combs in the super previously given are partly filled, or, when the combs in the outside of the super contain some nectar. It pays to put on supers in ample time so that the bees may have comb space for storing the incoming nectar. Many beekeepers fail to provide supers soon enough and consequently a portion of the crop is lost because the bees do not have sufficient storage space.

Swarm Control in the Production of Extracted Honey

As a rule, it is not a difficult matter to control swarming in the production of extracted honey. The main cause of swarming is congestion within the hive. Putting on supers in ample time relieves congestion. Therefore, a colony that has plenty of comb space for brood rearing and for the storage of incoming nectar is not so likely to swarm as is a colony that does not have sufficient comb space.

Importance of Ventilation

In the production of extracted honey we have found, during the past eight or ten years, that ventilation can be provided by pushing each pile of supers, including the queen-excluder, forward one-half inch to permit a current of air to pass through the brood chamber. The small openings at the back and front of each hive do no harm. If the hive is tilted forward slightly any rain that might beat in at the back of the hive will run out of the hive entrance readily.

It is an advantage also to place shade boards over the covers of hives, especially in locations where the sun beats down on the hives during the hottest part of the day. The shade-board should be placed on a couple of bricks or sticks so that a current of air may pass between the shade-board and the cover of the hive.

Management of Supers in Comb Honey Production

The production of comb honey is more difficult than the production of extracted honey. This is because the bees do not enter comb honey sections so readily as they do the extracting combs. As a matter of fact, the production of comb honey should not be attempted in localities where there is a rather slow and intermittent honey flow. Regions that give a heavy honey flow of considerable duration

are ideal for the production of comb honey, because, under such conditions bees will be more likely to start working in the supers quickly and will fill and cap the sections more readily.

Assuming that each colony occupies a double-story hive at the time the first super is given (and, by the way, the first comb honey super should not be given until the main honey flow actually starts), the hive should be reduced to a single story, filling the bottom brood chamber with combs of brood. In a double-story ten-frame hive it is not uncommon to find colonies with brood in from 10 to 15 combs. The oldest brood should be selected from the two stories and put into the bottom brood chamber. The remaining combs containing honey and small patches of brood in what was the upper brood chamber can be placed on a bottom board beside the old hive and given a cover. The bees in this hive can be given a queen, or, in three weeks a young queen will be reared from larvae.

Where one has a number of colonies, and does not want increase, the extra supers containing a little brood and honey can be stacked up four or five high. During a normal season they will be filled with honey. They can be placed back on the hives from which they were taken after the surplus honey is removed in the fall and used as food chambers.

A colony that is very populous in bees can be given two comb honey supers at first, instead of one. As soon as the first super or supers are half filled another super should be added, and this one is placed next to the brood chamber. As soon as all the foundation in all the sections is drawn out in the last super given, it is time to put on another super.

Watching for Signs of Swarming

Swarming is more difficult to control in the production of comb honey than in the production of extracted honey. It is necessary to examine brood chambers of hives at least every six days, or, once a week. Frequently colonies with young queens do not attempt to swarm during the season. If queen cells are started, they should be destroyed. One may find shallow queen cells just started, with an egg in each cell. If these are not removed a swarm is likely to issue from this hive in eight or ten days. Sometimes destroying these young queen cells will not prevent swarming. If it is found that a colony persists in making preparations for swarming, it may be necessary to practice artificial swarming.

How to Make an Artificial Swarm

When a colony swarms naturally, there is a division or separation of the queen and the older bees from the brood and young bees unable to fly. To make an artificial swarm place a new hive on the parent stand and set the old hive on a new stand close by. This new hive should contain frames with full sheets of foundation or drawn combs. The queen in the old hive should be found and placed in a cage temporarily, or, put on a comb and set aside while the bees are shaken from each comb, either in front of the new hive on the parent stand, or in the hive. Queen cells found on combs should be destroyed. However, two or three combs with adhering bees and one or two queen cells should be saved out, and placed back in the parent hive. The adhering bees will take care of the brood in the parent hive. The queen should then be put in the new hive on the parent stand. Thus the colony of bees, with the exception of the bees on the three combs, occupy the new hive on the old stand, and artificial swarming has been accomplished. This colony on the old stand will go to work in earnest and give up preparation for swarming. The brood in the old hive on the new stand will provide enough bees to make this hive populous. In due time a young queen will develop from one of the cells left in the hive. This old hive should be moved to a new location at the end of seven days. This should be done early in the afternoon of a fine day so that the bees in the field may go into the new hive on the old stand and thus strengthen this colony.

Supering at the Close of the Season

Unless the beginner is careful to add supers as needed, there are likely to be some unfinished sections at the close of the season. If there are signs of the honey flow diminishing, or if unfavorable weather conditions affect the honey plants, the bees should be given an opportunity to complete the sections they have started. It may be necessary to rearrange the supers somewhat. The super that is farthest along should be kept in the position of second super until it is finished.

Toward the close of the honey flow the new super is placed on top, rather than directly above the brood chamber to provide storage space for nectar if needed.

Gleaned by Asking
BY THE EDITORS

Forcing the Queen to Lay in Artificial Queen-cell Cups Instead of Grafting

Question.—When breeding queens are kept to get eggs for grafting, why not tack a small board on one side of the grafting frames, fill the frames with queen-cell cups, then let the queen lay eggs in the cups, nature's way, and save the work of grafting?—H. W. Fulmer, Pennsylvania.

Answer.—I have never seen a queen laying in a queen cell, and know of no one who has. We do know that bees move eggs from worker cells into queen cells and that they place these eggs on end in the center of the cell in the position that we would expect a queen to deposit the eggs. It may be that the queen cells are always started by the bees, either by moving an egg, or by removing the walls of a cell, containing an egg and rebuilding it to the size of the queen cell. This may account for queens refusing to lay in wax queen cells.—Mell Pritchard.

Cyanogas to Kill Bees

Question.—Will Cyanogas when put into a hive to kill bees, injure the honey in any way, for eating or as a food?—Charles Broman, Wisconsin.

Answer.—Cyanogas applied to combs of honey does not make the honey unfit for human consumption. The gas leaves the combs in a comparatively short time. Cyanogas is proving very useful for killing bees when this is necessary. The bees die instantly when the gas is applied.

Planting Basswood for Bee Pasture

Question.—We have a small plot of waste land in which we are contemplating planting basswood for bee pasturage. What has been your experience with such projects? How many years must one wait for an appreciable honey flow? What other honey plants would you suggest? Does the Vitex tree yield nectar?—Howard Y. Musselman, Pennsylvania.

Answer.—By planting well-developed young basswood trees, you should get some returns in nectar in about ten years. Basswood is an erratic yielder of nectar, being extremely sensitive to weather conditions. For this, and other reasons, it is doubtful if planting basswood trees for the nectar alone would be a profitable commercial venture. However, there are considerations other than commercial in planting trees, and you, of course, may have these in mind. If your soil is suitable for growing sweet clover, you would get immediate returns in nectar the second year if biennial white blossomed sweet clover is used, and the first year if the annual white blossom sweet clover is used. Sweet clover requires a sweet soil and in many localities it is necessary to lime the soil before sweet clover will do well. Alsike clover and white clover are also both excellent honey plants. Alsike, especially, is not so sensitive to acid soil as most of the other clovers. The Vitex tree is a nectar-bearing plant and especially adapted to climates warmer than yours. We have had conflicting reports on its value as a honey plant, some claiming excellent results, while others were disappointed. It is doubtful if it would be a profitable commercial undertaking to devote land to Vitex trees for the nectar alone.

Length of Time Foulbrood Germs Live

Question.—How long do the germs of foulbrood live in frames and combs?—Lewis Huff, Indiana.

Answer.—It is not positively known how long the germs of American foulbrood live. It is known, however, that they may live 50 years or more. Possibly after 100 years they may be virulent. They are somewhat comparable to seeds of plants when put away in dry places.

Starters for Sections

Question.—We are about ready to put starters in sections and have always used top and bottom starters. We learn from your writings that you use only one full sheet. We tried this but it seemed that the comb was not fastened to the bottom of the section as it should have been.—W. R. Suhre, Illinois.

Answer.—We would not like to advise you to use a single sheet of foundation after your experience mentioned. For several years we used both top and bottom starters and full sheets. For our locality there was no advantage in the bottom starter that could be detected. On the other hand, western producers find it advantageous and in some cases even necessary to use bottom starters. We suggest that you continue your experiments along this line, being careful to cut the foundation so that there will not be more than one-eighth of an inch between the lower edge of the sheet of foundation and the bottom of the section. A little less than one-eighth is even better, since the foundation should touch the bottom of the section soon after the bees begin to work on it. After a little experimenting with different clearances you will find the width which is just exactly right.

4 x 5 Versus 4¼ x 1⅞ Sections

Question.—Will you tell me whether I should use the 4x5 or 4¼x1⅞ inch section in my supers in this locality?—Paul C. Howe, Vermont.

Answer.—There is but little difference, if any, if the way in which bees work in the two kinds of sections. We think you should decide this matter largely upon

your market requirements. If your market prefers the small section, you may as well use that size. On the other hand, if your market prefers the 4¼-inch section, it would be best to use that size. Generally speaking, honey produced in 4x5 sections runs a little lighter in weight than that produced in the regular 4¼x1⅞ sections.

Relative Sweetness of Extracted Honey and Cane Sugar

Question.—What is the relative sweetness of a good extracted honey and a good grade of cane sugar? Or, to put it in another way, how much sugar is required to do the sweetening that one pound of extracted honey does?—W. B. Vreeland, Indiana.

Answer.—Authorities differ as to the relative sweetness of honey compared to ordinary cane sugar. Some hold that honey is sweeter. The majority seem to hold to the opinion that when honey is used in a recipe at least 20 per cent more of it should be used than cane sugar on account of the water content of the former. Our experiments indicate that honey is, in spite of the fact that it contains 20 per cent water, able to hold its own in the point of sweetness with cane sugar.

How to Prevent Robbing

Question.—How can I prevent black bees from robbing the honey out of my hive of Italian bees?—P. Kuegler, Maryland.

Answer.—As a rule, robber bees attack weak colonies. Frequently robbing gets started during a dearth of nectar, while hives are being manipulated. If it is necessary to open hives during a dearth of nectar, the hives should not be left open any longer than is absolutely necessary. If robber bees are seen around the entrance of a hive containing a weak colony, the entrance of this hive should be reduced down to small dimensions, about ⅜ of an inch by ½ inch, so that the guards may defend the entrance of the hive. Frequently it is difficult to stop robbing. Sometimes it is necessary to put the colony being robbed into a dark cellar for three or four days until the robber bees have quieted down. The hive in the cellar may then be removed to its original location late in the evening. When the honey flow comes on, robbing seldom occurs.

Wiring Frames

Question.—I find some trouble in wiring frames to get the top wire taut, or, as taut as the others. If the wire is drawn taut enough to sing, will the weather or temperature have any effect on it?—Walter R. Reynolds, Pennsylvania.

Answer.—Remembering that there is a slight expansion when bees draw foundation out in the combs, an expansion that seems to take place in all directions, we recommended for years a plan that is still in use. The upper wire is pulled down out of line slightly when it is imbedded. This plan lends itself rather better to the imbedding tool like the spur wheel imbedder than to the electric method of imbedding. The second wire may be drawn down slightly also, if desired. The reason that this plan was discontinued by a great many was that if this work is done in very hot weather or if the hot weather comes on suddenly there is apt to be some buckling of the foundation in the upper corners of the frames, due to the wire tending to return to a straight line. This buckling is more marked if the wire is drawn down too far. We believe that your chief difficulty has been that you have been trying to get the wires too tight. Remember that some expansion must take place in all directions. You get straighter combs if your wires are not drawn so tight that they sing.

Doubling Up Colonies

Question.—I have 20 swarms of bees and would like to double them up for the summer. How can I do this?—H. H. Kerker, Wisconsin.

Answer.—We assume that your colonies occupy single-story hives that are quite close together. In order to double or unite your 20 hives of bees into ten colonies, all that is necessary is to loosen the bottom boards on ten of the hives, and set these hives on top of the remaining ten hives from which the covers have been removed. It is an advantage to do this uniting quietly and with as little disturbance as possible. It is an advantage, also, to put a sheet of newspaper between the two hives being united, punching a few holes in the paper to provide ventilation for the hive on top. The queens in the two sets of colonies will fight it out. As a rule, the queen in the lower hive is killed whereas the queen in the upper hive survives. If you do this uniting you will doubtless have very populous colonies ready for the honey flow. Populous colonies are what are needed to secure the maximum crop of honey.

Two Queens in a Colony

Question.—Can two queens be kept in the same colony, separated by a queen excluder?—H. W. Fulmer, Pennsylvania.

Answer.—Two queens can be kept for a time at least in a double-story hive with a queen-excluder between the two bodies. During a good honey flow the two queens will live in the same hive but at the close of the honey flow one of the queens is apt to disappear. We have put wintered colonies in long-idea hives with queens separated by a perpendicular queen-excluder. In only one or two of the hives have both queens lived until spring.—Mel Pritchard.

Sell and Buy Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.

HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

CHOICE Michigan clover honey, new 60's. David Running, Filion, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

MICHIGAN white comb honey. M. H. Hunt & Son, Lansing, Mich.

WHITE extracted honey in 60's. Porterholm Farm Apiaries, Adrian, Michigan.

FOR SALE—Clover and buckwheat extracted in 60-lb. cans. F. W. Lesser, Fayetteville, N. Y.

WRITE me for prices and samples of honey. I can please you. Thos. D. Sherfick, Shoals, Ind.

WHITE clover extracted honey. Write for prices and sample. Kalona Honey Co., Kalona, Iowa.

MICHIGAN'S finest well ripened white honey in new 60's. Sample, 15c. Jay Cowing, Jenison, Mich.

TUPELO HONEY—Will not granulate. Shipped in any quantity. Anthony Bros. Honey Co., Apalachicola, Florida.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. E. J. Stahlman, Grover Hill, Ohio.

FINE quality orange, palmetto and mangrove honey in new sixties. Sample, 6c. Peter W. Sowinski, Fort Pierce, Florida.

NEW crop section comb honey, nice white stock securely packed in carrier crates of four and eight cases. The Colorado Honey Producers' Association, Denver, Colo.

WHITE clover extracted, 7c; light amber clover, 6½c; No. 1 comb sumac, mixed or buckwheat, $2 case. 1932 crop buckwheat, $1.25 case. C. B. Howard, Geneva, N. Y.

NEW crop Michigan clover honey, as produced by E. D. TOWNSEND & SONS, Northstar, Michigan, should be ready for the market in July. Speak for your requirements.

WILD red raspberry, clover, basswood, white comb; extra fancy, $2.50 per case. Extracted, unexcelled, in 5-lb. pails, 8c; in 60s, 7c. Buckwheat, $1.85; 5¼c. Murray's Golden Apiaries, Clarion, Mich.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

RASPBERRY HONEY—In 60-lb. cans, for $6.00 a can. In 10-lb. cans by mail, postpaid up to and including fourth zone, for $2.00 a can. Sample by mail, 20c. Elmer Hutchinson & Son, Lake City, Mich.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

WANTED—White clover honey, car lots. Morrison, 548 West 22nd St., New York, N. Y.

WANTED—Comb and extracted honey. Mail sample, state quantity and price. Sherfick Farms, Shoals, Ind.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

EXTRACTED HONEY WANTED—Carloads and less than carloads. Send sample and best price. C. W. Aeppler Company, Oconomowoc, Wis.

WANTED—Honey from California, Oregon, Washington, Idaho beekeepers. Priced Tacoma or Puyallup. Send samples. Sherman Whitney, Puyallup, Washington.

WANTED—Honey and beeswax. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. California Honey Company, Hamilton & Company, Agent, 108 W. Sixta St., Los Angeles, California.

FOR SALE

SAVE queens. Safin cages now 15c; ten for $1. Allen Latham, Norwichtown, Conn.

ELECTRICAL comb honey cutting knives, uncapping knives, $10.00 each; with thermostat, $14.00. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

COMB HONEY CARTONS, send for samples, odd lots at low prices. Give size and quantity you can use. A. G. Woodman Co., Grand Rapids, Mich.

FOR SALE—Comb foundation at money-saving prices. Plain, wired, and thin section. Wax worked at lowest prices. E. S. Robinson, Mayville, N. Y.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

VEILS—Handy net style, 13c each postpaid. Write for bargain list books, brushes, box seats, feeders, extractors, excluders, toys, F. O. B. Lewis warehouses. Subject to stock closeout prices. G. B. Lewis Company, Watertown, Wis.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

BEE SUPPLY SPECIALTIES

METAL EYELETS in your frames will stop the WIRE SAG which is responsible for most SAGGED COMBS. METAL EYELETS per 1000, 60c. Handy tool for inserting eyelets, 25c. Superior Honey Co., Ogden, Utah.

BEES AND QUEENS FOR SALE

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from diseases, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

"SHE-SUITS-ME" queens, see cut on page 378. Allen Latham, Norwichtown, Conn.

ONE HUNDRED colonies of bees in good condition, guaranteed free from diseases. Harry Spooner, Stephens, Arkansas.

PURE Italian queens, good producers and gentle, one to nine, 70c; 10 to 24, 65 cents; 25 to 49, 55c. A. M. Kelly, Bell, Fla.

TRY Townsend for your June package bees or queens. Very prompt service guaranteed. F. D. Townsend, Northstar, Michigan.

FOR SALE—Four colonies Italian bees. Guaranteed free from disease. Fully equipped, fine condition. Robert Way, Medina, Ohio.

THREE-BANDED Italian bees and queens that are real honey gatherers and gentle to work with, at code prices. Alamance Bee Co., Graham, N. C.

FORTY hives of bees, Italians, guaranteed no disease; 3-ply combs, 10-frame, half double-walled, food chambers, etc, $8 up, according number supers. H. M. Newsome, Wilton, Conn.

BETTER PACKAGE BEES—Better queens for 1934. Vigorous, gentle, disease resistant three-banded Italians. Best honey producers. Write for full information and prices. H. C. Short, Fitzpatrick, Ala.

GOLDEN Italian queens that produce good workers, gentle to handle, not bad to swarm, at code prices. Untested, 1 to 9, 70c each; 10, 65c each. Tested, $1.40. Select tested, $2.00. D. T. Gaster, Rt. 2, Randleman, N. C.

CHOICE bright Italian queens that are a pleasure to work with and be proud to own. The stock has been bred and selected in the North the past 31 years for good winterers, hustlers, gentleness and fine color. 85c each; doz., $9.00; breeders, $6.00. Emil W. Gutekunst, Colden, N. Y.

REQUEEN now with Caucasian queens. They winter better, are better honey gatherers, gentle and prolific. Queens, 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each. Package bees at code prices. P. B. Skinner Bee Co., Greenville, Ala.

EXTRA YELLOW ITALIAN QUEENS. Over 16 years a breeder. It takes quality to stand competition so many years. Code price on untested. 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each. Health certificate and satisfaction. Ask for circular. Hazel V. Bonkemeyer, Randleman, Rt. 2, N. C.

MOUNTAIN grey Caucasian queens, bred from the very best long-tongued strain. A trial order will convince you of their merits. Untested queens, 1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 or more, 50c. Safe arrival and satisfaction. Lewis & Tillery Bee Co., Greenville, Ala.

THE NORMA ROY APIARY—Italian bees, 2 lbs. bees, 1 comb with queen, 1 to 9, $2.65; 10 to 49, $2.55; 50 or more, $2.45; 2 lbs. bees with queen, combless, 1 to 9, $2.15; 10 to 49, $2.05; 50 or more, $1.95. For each additional pound bees, add 80c. For each additional comb, add 50c. Safe arrival guaranteed and health certificate with shipment. Norma E.Roy, Hessmer, Louisiana.

ROOT EXTRACTOR COLUMN

(A free advertising service to Root customers who wish to dispose of their present extractors as they are purchasing Root machines of greater capacity.)

FOR SALE—Root No. 25 4-frame automatic extractor, 9½" baskets, in very good condition, $30.00. H. J. Avery, Katonah, N. Y.

ROOT 2-fr. reversing extractor, good as new. Root 4-fr. power extractor, in good mechanical condition. A. I. Root Company of Iowa, Council Bluffs, Ia.

FOR SALE—A 4-frame multiple reversing hand extractor. Used very little. Good as new. A bargain at $40.00. Claud Lane, 1201 Walnut St., Valley Falls, Kansas.

FOR SALE—A No. 4425 Root 4-frame power extractor, has been used only six years. Is in good mechanical condition. Write Russell D. Smalley, Grand Junction, Iowa.

MISCELLANEOUS

WANTED—2-frame reversing extractor. Give condition and price. A. L. Poe, Hoberg, Mo.

LETTERHEADS, envelopes, lowest prices, quality considered. Samples, prices free. Beekeepers Printing Company, 1010 Eighth, Watertown, Wis.

BEEKEEPERS—Improve sources of nectar by planting vitex trees, or seed. Two-year-old trees, 40c; one-year-old trees, 25c. New tested seed at $1.00 per ounce. All prepaid. Joe Stallsmith, Galena, Kansas.

June Prices

QUEENS: 1 to 9, 70c; 10 to 24, 65c. 2-lb. pkg. of bees with queen, $2.15 each. 3-lb. pkg. of bees with queen, $2.80 each.

Write for quantity prices.

J. F. McVAY, JACKSON, ALA.

-Mountain Gray Queens-

For June or Later

Ten years of selective breeding of Caucasians only enables us to offer stock that we believe will please you. Our bees are gentle and easy to handle. Many high producing records to their credit. Select untested queens: 1 to 9, each, 70c; 10 to 24, each, 65c; 25 to 49, each, 55c. Select tested queens, 1 to 5, each, $2.25, postpaid and guaranteed to please.

Bolling Bee Co., - Bolling, Ala.

Try the E. A. Simmon's Apiaries

GOLDEN ITALIAN QUEENS

There are none better. They have given satisfaction for over 30 years. Caged the day they are shipped. Ready to lay when you get them.
1 to 9, 70c each; 10 to 24, 65c each.

E. A. SIMMONS APIARIES, Greenville, Ala.
Powell Owen, Mgr.

Queens of the Best Quality

With our queens you can reduce swarming. With our queens you can reduce winter loss. Our bees have never been exposed to disease. Prompt shipping and high quality make it pleasant for our customers. Untested: 1 to 9 queens, 70c each; 10 to 24 queens, 65c each; 25 to 49 queens, 55c each; 50 or more, 50c each. Tested queens, double the price of untested.

TAYLOR APIARIES, Luverne, Ala.

GASPARD'S High quality golden and three-banded Italian queens, package bees and nuclei, for June and rest of the season, at lowest Code Prices. Buy while the price is low. Address—
J. L. GASPARD, HESSMER, LOUISIANA.

Better-Bred Italian Queens

Do you know the value of a good, young queen? To introduce a young, vigorous queen into your colony is the best investment you can make for honey returns. They will produce enough more honey to more than pay the purchase price of queen.

Better bred queens are bred from the very best stock, by well tried methods and by competent men. We have one of the best locations in U. S. A. for queen rearing. A trial will convince you.

Code Prices, until Nov. 1st.

Queens—1 to 9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-249, 45c; 250 or more, 42½c.

2-lb. Packages—1-9, $2.15; 9-49, $2.05; 50 or more, $1.95.

3-lb. Packages—1-9, $2.90; 9-49, $2.80; 50 or more, $2.70.

Calvert Apiaries, Calvert, Ala.

Queens! Queens!

June is a good time to requeen. When you requeen you want good queens that will build your colonies up quick. Our queens are better than ever and we can get them out by return mail. Postpaid.

1-9	10-24	25-49	50 or more
70c	65c	55c	50c

10% discount on 100-249, 15% on 250 or more.

Package bees will strengthen those weak colonies. Express collect.

2-lb. packages with queens—1-9, $2.15; 10-49,$ 2.05; 50 or more, $1.95. 3-lb. packages with queens—1-9, $2.80; 10-49, $2.70; 50 or more, $2.60.

Good overweight packages with select queens. Shipments made promptly.

The Crowville Apiaries
Winnsboro, Rt. 1, La.

Tennessee

Our foundation stock: John M. Davis 3-banded Italian breeding queens, the "queens that made Tennessee famous." Our queens are personally reared from the best breeding mothers to be obtained, and are sure, and guaranteed to please you. Ready about May 15. Code prices.

Noble S. Gladish, Pulaski, Tenn.

3% *Banking by* MAIL

FOR BANKING SERVICE that meets your requirements, deal with this 41-year-old institution.

E.B. SPITZER, PRESIDENT
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THE SAVINGS DEPOSIT BANK CO. MEDINA OHIO

Bees and Queens by return mail

Buy a good queen while you are buying. Try John A. Norman's pure 3-banded Italian bees and queens. I have the stock, equipment and experience. My output will be several hundred queens per month. My prices are right, my queens are equal to any. Hundreds of America's greatest honey producers order from me. Follow their example. You risk not a penny. After you have given my queens a fair test and you are not satisfied, just return them and I will replace or refund your money. Isn't this a fair proposition to any one that wishes to purchase queens? My bees are hardy, prolific, disease-resisting and honey-gatherers. I guarantee pure mating, safe arrival, satisfaction, and state health certificate in U. S. and Canada.

JUNE PRICES

Untested Queens—1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c. Tested queens double the price of untested queens.

2-lb. packages with queen—1-9, $2.65; 10-49, $2.55; 50 or more, $2.45. 3-lb. packages—1-9, $3.40; 10-49, $3.30; 50 or more, $3.20.

John A. Norman, Ramer, Ala.

Box 113

Full weight young bees, guaranteed arrival, prompt shipment, health certificate, three-band Italian Queens and Package Bees

Young Mated Queens, Each

Queens	1-9	10-24	25-49	50-99	100
Each	70c	65c	55c	50c	45c

Package Bees, each containing a young mated queen, shipped express collect.

Two-pound Packages

1-9	10-49	50-99	100
$2.15	$2.05	$1.95	$1.71

Three-pound Packages

1-9	10-49	50-99	100
$2.80	$2.70	$2.60	$2.34

If queenless bees are wanted, deduct the price according to the amount.
I guarantee queens or bees to arrive alive and in good condition. In case they don't, I will replace them at once with more or refund your money including express charges. I ship the day I receive your order, if requested.

D. C. JACKSON
FUNSTON GEORGIA

Things You Should Know

We are in the queen and package business to make an honest living. We have no sideline to detract our attention. We are not the best shippers in the South. But we think we are as good as the best. If you are in doubt of this statement, try our 24-hour service on queens and package bees for this month. If we fail to render this service your money will be returned same date received. This service does not include Sunday. If you have not been receiving this service, give us a trial and be convinced. We feel that we can make this guarantee by anticipating your needs months in advance.

We breed the Three-banded Italians only.

CODE PRICES FOR JUNE

QUEENS: 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each.

PACKAGES: 2-lb. package with queens, 1 to 9, $2.15 each; 10 to 49, $2.05 each; 50 or more, $1.95 each. 2-lb. pkg. with queen: 1 to 9, $2.80 each; 10 to 49 $2.70 each; 50 or more, $2.60 each.

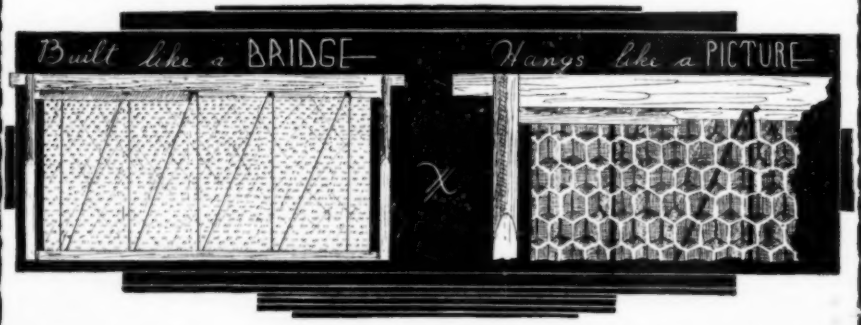
Shaw & Homan, Shannon, Miss.

Hang It All!

You can not pull yourself up by your "boot straps," however, you can hang this most modern wired foundation by its straps. See them at the top edge of the foundation.

FOUR POINTS OF MERIT:

(1) It can not come loose from the frames.
(2) Diagonal wires prevent centrifugal fracture when extracting.
(3) Easily attached to frames.
(4) Made from the finest non-sagging wax.



PRICES, WIRED "HERCULES" MEDIUM BROOD FOUNDATION

Size.	10 sheets	50 sheets	200 sheets	Av. sh. to lb.
8 x 16¾	90c	$4.10	$16.00	7 plus
8 5/16 x 16¾	95c	4.35	17.00	7

"MILL RUN"—95% PERFECT SHEETS

	8"x16¾"	8 5/16"x16¾"
200 Sheets Hercules Medium Brood, Plain	$12.00	$13.00
50 Sheets Hercules Medium Brood, Plain	3.10	3.35
200 Sheets Medium Brood, Plain	12.00	13.00
50 Sheets Medium Brood, Plain	3.10	3.35

Write for our complete catalog of money-saving supplies.

Have your wax worked into foundation at our low working prices.

We will render your old combs and cappings into wax at prices you can afford; 2c per lb. for wax rendered on shipments of 100 lbs. of comb or cappings, 3c per lb. on less than 100 lbs.

We will buy your white or amber extracted honey. Cash or trade.

The Fred W. Muth Co.

Pearl and Walnut Sts. Cincinnati, Ohio

BERRY'S

Reliable Package Bees and Queens

Forty Years of Selected Breeding Twenty Years Shipping Packages Pure Three-banded Italian Bees and Queens

Our bees and queen bees are Accredited and Certified by the State of Alabama to be all we claim as to quality, etc. Alabama package bees by test are proved to be the best. If you have not tried them let us prove this fact to you.

Our U. S. Code Prices

PACKAGE BEES BY EXPRESS COLLECT

2-lb. pkgs. with sel. warranted purely mated queens: 1 to 9, $2.15 each; 10 to 49, $2.05 each; 50 or more, $1.95 each. 3-lb. pkgs. with sel. warranted purely mated queens: 1 to 9, $2.80 each; 10 to 49, $2.70 each; 50 or more, $2.60 each.

Selected warranted purely mated queens: 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 and up, 50c each. Wings clipped free of charge.

10% discount on orders for 100 to 249 and 15% off on orders for 250 and up, package bees or queens.

Quality of our goods and service is guaranteed by us and backed up by the State of Alabama and the U. S. Government under the Code.

M. C. BERRY & CO.

BOX 684 MONTGOMERY, ALA.

Golden Italians

BEES AND QUEENS OF QUALITY

Ours are those large, gentle, yellow bees that are such excellent honey producers and are so nice to handle. They winter well.

Our queens are large, uniform, and very prolific. They are caged the day shipped.

Shipping cages are light, well ventilated, filled and shipped the same day from New Orleans. We give generous overweight. Virgins and drones are excluded.

Remember well and bear in mind,
Better bees and queens are hard to find.

Code prices. Descriptive circular gladly supplied.

Stevenson's Apiaries, Westwego, La.

Italian Queens

Daughters of breeding queens imported from Northern Italy. Are they good queens? You'll say they are good when you try them. They are produced at Basswood Queen Apiary by Mel Pritchard.

75c Each

Any number, after June 15.

The A. I. Root Company

MEDINA, OHIO

QUALITY BRED ITALIAN BEES AND QUEENS

• • •

We offer you unsurpassed quality, young bees, select queens, on time shipments, large quantities, full weights, light cages, safe arrival and satisfaction.

CODE PRICES

Two-pound Packages Italian Bees with Queens, Express Collect

1 to 9	10 to 49	50 to 99	100 to 249	250 or more
$2.15 each	$2.05 each	$1.95 each	$1.75½ each	$1.65¾ each

Three-pound Packages Italian Bees and Queens, Express Collect

$2.80 each	$2.70 each	$2.60 each	$2.28 each	$2.21 each
1 to 9	10 to 49	50 to 99	100 to 249	250 or more

Queens by Mail Postpaid

1 to 9	10 to 24	25 to 49	50 to 99	100 to 249	250 or more
70c each	65c each	55c each	50c each	45c each	42½c each

For queenless packages, deduct price of queens. For shipment by parcel post, add 20c per package, plus postage. For larger packages, add 80c for each additional pound of bees. Place your order now for choice of shipping dates and have your bees when wanted. Full line of Lewis Beeware and Dadant's Foundation at catalog prices.

• • •

YORK BEE CO., The Universal Apiaries Jesup, Ga.

Bright Yellow Italian Queens

1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 to 99, 50c each. Discount from prices of 50, 10% for 100 to 249; 15% for 250 or more.

Cloverland Queens are making a name for themselves throughout the country and Canada. Large, beautifully marked, their workers are hardy and very productive. Book your order for the entire summer needs; order shipments as you need them.

——PACKAGE BEES——

Package bees are cheaper this month. Deduct 50c per package from the prices quoted last month for 2-lb. packages or 2-lb. nuclei; and 60c from the price quoted for 3-lb. packages.

Send your order to the

CLOVERLAND APIARIES

HAMBURG, LA., U. S. A.

Smith's

Superior 3-Band Italian Queens

Now that you pay a fair price for queens you should get the very highest **QUALITY.** We sell the kind that will give you the highest profits from your bees. Accredited by Dept. of Agriculture and guaranteed by us.

Selected untested—1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-249, 45c; 250 up, 42½c each.

N. B. Smith & Co.

CALHOUN ALABAMA

MOTT'S NORTHERN-BRED ITALIAN QUEENS

Practically non-swarming—not "hooey." June, July, $1; 2 to 49, 75c each; 50, 70c each; 100, 65c each. Guaranteed purely mated. Select tested, $2.00, $3.00, $5.00, fair to good breeders. Virgins, 45c each. Free list. Satisfaction guaranteed.

E. E. MOTT & SON, Glenwood, Mich, U. S. A.

Ellison's Queens

Perfection of beauty, quality and service. Book your order in advance, and get them on time. Most orders are shipped within 24 hours after receipt. Code prices for balance of season are as follows: 1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c. Guarantee no disease and quick service.

C. G. ELLISON, BELTON, S. C.

FIRST-CLASS JOB PRINTING.
THE A. I. ROOT CO., MEDINA, O.

Italian Queens

High Grade Superior Quality.
70c each, 10, 65c each; 25, 55c each.

G. H. MERRILL

Route 1, Greenville, S. C.

QUEENS

Pure Italian stock, heavy honey getters, gentle to handle. Any number, any day.

Prices to June 1st—1-9, 85c; 10-24, 80c; 25-49, 75c; 50-99, 70c; 100-249, 63c; 250 up, 59½c.
After June 1st—1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-249, 49½c; 250 up, 41½c.

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Louisiana Southern Bee Farm

Route 2. BATON ROUGE, LA.

Groom's

Northern-bred Queens for 1934 are from the finest Italian stock, bred for honey-getting and gentleness. Our queens are very prolific. They should improve your colonies and increase your profits. There is no disease in my yards. Safe arrival and pure mating guaranteed. Lowest code prices. See large ad in April Gleanings.

WILLIE GROOM, Gashland, Mo.

Middle Tennessee Apiaries

offers leather-colored Italian queens bred from mothers imported from northern Italy.
1 to 9, at 85c; 10 to 24, at 80c; 25 to 49 at 75c. 50 or more at 70c.

JOE B. TATE & SON

1029 Lischey Ave. Nashville, Tenn.

For Sale!

ITALIAN BEES AND QUEENS
Bright and Red Clover Kind.

1 to 9 queens, 70c each; 10 to 24 queens, 65c each; 25 to 49, 55c each. Pound bees at code prices.

GRAYDON BROS., Rt. 2, GREENVILLE, ALA.

Strong Colonies Produce Big Crops

Weak colonies produce little or nothing. Make every colony strong this season by adding package bees to the weak ones. We are now prepared to ship them promptly. Prices on packages reduced June 1.

Queenless packages, 2 lbs., $1.45 each; 10 or more, $1.40; 3 lbs., $2.10 each; 10 or more, $2.05 each. Queens, 70c each; 10 or more, 65c each. Write for circular and prices on larger quantities.

J. M. Cutts & Sons

Rt. 1 Montgomery, Ala.

Howell's Queens

AT SUMMER PRICES

1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 or more, 50c each.

Pure three-band, raised right, shipped right.

D. W. HOWELL, SHELLMAN, GA.

Moore's Strain

Leather Colored Italian Queens

NORTHERN BRED

1 to 9	70c each
10 to 24	65c each
25 to 49	55c each
50 or more	50c each

World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed. Circular free.

J. P. Moore

MORGAN KENTUCKY

Get Running's Bees

And Get Honey — They Satisfy

PACKAGES AND QUEENS

The kind WE use in our extensive Michigan Apiaries where WE produce honey by the carload.

ALL ITALIAN STOCK

Service guaranteed. Stock bred for honey-getting and gentleness. Apiaries accredited and certified by Alabama Department of Agriculture. Get our free circular. YOU can now get RUNNING'S Bees and Queens as cheap as others. Minimum Code Prices apply. All bees and queens shipped from our Alabama Apiaries.

DAVID RUNNING APIARIES

Sumterville, Alabama, or Filion, Mich.

Norman Bros.'

QUEENS BY RETURN MAIL

Mr. Beekeeper, head your colonies with **Norman Bros.'** bright 3-banded Italians. You will be pleased with our large yellow selected honey-gathering strain. They will build up and prove to your satisfaction and help to increase your honey profits. Our queens are backed by years of improving and selecting from the finest mothers mated to selected drones. Our aim is, if better queens and bees are to be reared we will rear them. All orders filled by return mail or soon after, or your money refunded. Every queen guaranteed purely mated, safe arrival and satisfaction.

PRICES JUNE 1 TO OCTOBER 31.

Untested queens—1-9, 70c; 10-24, 65c; 25-49, 55c; 50-100, 50c. Tested queens, double the price of untested queens.

Prices of Packages **with queens**—2-lb: 1-9, $2.65 each; 10-49, $2.55 each; 50 or more, $2.45 each; 3-lb., $3.40 each; 10-49, $3.30 each; 50 or more, $3.20 each.

All packages F. O. B. shipping point. We guarantee state health certificate, full weight of bees, light weight cages and safe arrival in U. S. A. and Canada.

Norman Bros. Apiaries, Ramer, Ala.

California Package Bees

With uniform prices set by Code, quality and service are still to be considered when placing your order for Package Bees and Queens.

Pure Italian stock, gentle, uniform, lowest transportation charges, safe arrival, satisfaction, that's our guarantee.

CODE PRICES

Packages (with queens) Nov. 1 - May 31

	1-9	10-49	50 or more
Two-pound	$2.65	$2.55	$2.45
Three-pound	3.40	3.30	3.20

Queens—November 1 - May 31

1-9	10-24	25-49	50 or more
$.85	$.80	$.75	$.70

(Discounts from price of 50—10% for 100-249; 15% for 250 or more—Packages or Queens).

J. E. WING

COTTONWOOD CALIFORNIA

Queens-WHY NOT NOW-Queens

Try our honey gathering strain, pure Italian stock. They are sure to please you. Untested queens, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each. 2 lbs. queenless pkgs., $1.45 each. F. O. B. shipping point. Other pkgs. at code prices. Write us.

Honey Bee Apiaries, Sandwich, Ill

Honey Getting Package Bees Handy to Eastern Buyers

Our bees have been selected for honey gathering for a number of years, and are guaranteed to please. Being nearer to the East, bees arrive less travel worn. With 34 years keeping bees, we give you the best that experience and ingenuity can devise.

SAFE INTRODUCTION OF QUEENS NOW GUARANTEED

For ten or more years, we have used a special method of introducing queens, from a special cage, that has proven 95% efficient with us, and we wish for the general public to try it out in a large way, and we are therefore offering to replace free a queen (if lost) to each of the first 500 buyers who will try this out, following carefully our instructions, which are sent with queen. We will have several hundred surplus queens, and so order all you need. Please remember that 45 to 70% of queens introduced by average queen buyer are lost with the methods usually used. Code prices are lower now.

L. L. FEREBEE, PINELAND, S. C.

How Did Your Bees Winter?

The past winter was an "acid" test for hardiness of bees. Our bees not only survived on summer stands but were never stronger. Queen cells were grafted April 9, and young queens laying first of May.

Mr. Wm. C. Horner, Altoona, Pa., wrote us April 27, 1934: "Queens that I received last year all certainly came up to all the requirements—they are hardy and colonies strong; they stood the acid test of cold weather, 39° F. below zero. I did not lose a colony and all are working strong. I have already supered all my hives and am looking for a good season. I certainly will be back for more."

This train of hardy, prolific, hustling Italians, deserves a place in your apiary. Begin preparations now for next year.

Untested queens, each, 70c; 10, $6.50; 25, $13.75; 50, $25.00. Safe arrival and satisfaction guaranteed.

WHITE PINE BEE FARMS, Rockton, Pa.

With Gleanings since 1911.

Garon's HONEY FED "Diamond" PACKAGE BEES AND QUEENS

Now that the early and most urgent reinforcement of your colonies is well under way, the equally important procurement of GOOD QUEENS is to be seriously considered. Our "Diamond" QUEENS have proven their mettle in drought stricken sections the last several years. (Testimonials upon request.)

Queens—1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-249, 45c; 250 or more, 42½c.

Packages—2-lb. with queen, 1-9, $2.15; 10-49, $2.05; 50 or more, $1.95.

Packages—3-lb. with queen, 1-9, $2.80; 10-49, $2.70; 50 or more, $2.60.

Health certified. Correct weight at destination. Prompt shipment. Satisfaction.

DEPENDABILITY SERVICE HONESTY

GARON BEE CO., Donaldsonville, La.

HONOR ROLL

List of American Honey Institute Subscribers from April 1, 1933, to March 31, 1934.

(This ppace donated by Gleanings in Bee Culture.)

SUPPORTING MEMBERS

The A. I. Root Co., Medina, Ohio, $500; Dadant & Sons, Hamilton, Ill., $300; G. B. Lewis Co., Watertown, Wis., $250; Sioux Honey Association, Sioux City, Ia., $126.05; Stover Apiaries, Mayhew, Miss., $125.00; W. F. Straub & Co., Chicago, Ill., $125; August Lotz Co., Boyd, Wis., $100; Superior Honey Co., Ogden, Utah; $100; American Can Co., Chicago, Ill., $50; Continental Can Co., New York, N. Y., 50; A. G. Woodman Co., Grand Rapids, Mich., $35; A. I. Root of Chicago, Chicago, Ill., $25; Standard Churn Co., Wapakoneta, Ohio, $20; C. W. Aeppler, Oconomowoc, Wis., $20; Owens-Illinois Glass Co., Toledo, Ohio; $15; M. H. Hunt & Son, Lansing, Mich., $15; A. I. Root Company of Syracuse, Syracuse, N. Y., $10; Colorado Honey Producers' Assn., Denver, $5.

CONTRIBUTING MEMBERS

Alabama—M. C. Berry, Montgomery, $25.70; Jasper Knight, Hayneville, $15.00; H. C. Short, Fitzpatrick, $10; Hayneville Apiary Company, Hayneville, $10.00; Alabama Apiaries, Mt. Pleasant, $10; Bolling Bee Company, Bolling, $10; J. M. Cutts & Sons, Montgomery, $10; David Running, Sumterville, $10; Citronelle Bee Co., Citronelle, $10; W. J. Forehand, Ft. Deposit, $7.50; Taylor's Apiaries, Luverne, $5; J. F. McVay, Jackson, $5; N. B. Smith, Calhoun, $5; P. M. Williams, Mt. Willing, $5; Crenshaw County Apiary (M. Talley), Rutledge, $5; V. R. Thagard & Co., Greenville, $5; A. L. Webb, Calvert, $5; Caucasian Apiaries, Brooklyn, $5; Caucasian Bee Co., Repton, $3; J. H. Waibel, Sumterville, $3; E. F. Day, Honoraville, $2.50; T. Atichson, Birmingham, $1; W. E. Harrell, Hayneville, $1.00; W. A. Ruffin, Troy, $1.00.

Arizona—Glen F. Blair, Phoenix, $10; Arizona State Bee Assn., $9; Leslie Wedgeworth, Oracle, $5; W. J. V. Johnson, Benson, $5; J. F. Bigelow, Casa Grande, $1.

California—E. J. Snider, Denair, $25; Jess Heppner, Arroyo Dr. Covina, $17.65; Geo. Adamson, Pomona, $12; Meredith & Son, Whittier, $10.42; F. E. Boyden & Hausen Co., Ltd., Oakland, $10; P L. Crump, Santa Ana, $10; L. L. Andrews, Corona, $10; C. E. Lush, Orange, $10; L. B. Crawford, Santa Ana, $10; Bell Apiaries, Orange, $9.60; W. H. Moore, Winton, $9.11; C. W. Wurschmidt, Orland, $8.90; Crawford & Son, Long Beach, $8.82; M. P. Woodworth, Long Beach, $8.82; Helen Weightman, Los Angeles, $8.82; Roy E. Lusher, Monrovia, $8.82; L. D. Schleicher, Pasadena, $7; John W. Vasey, Miramor, $6.50; Davis Brothers, Courtland, $6.00; A. Olsen, Glendora, $5.53; D. H. Roney, Modesto, $5.34; H. M. Krebs, Sacramento, $5; Hamilton & Hamilton, Los Angeles, $5; Bryant & Cookinham, Los Angeles, $5; Superior Honey Co., Los Angeles, $5; Bee Industries, Alhambra, $5; Geo. L. Emerson, Los Angeles, $5; B. Z. B. Honey Co., Alhambra, $5; H. J. Hink & Co., Alameda, $5; Max Mayer, Los Angeles, $5; Roy K. Bishop, Orange, $5; A. A. Crannell, Santa Ana, $5; G. S. Davis, Anaheim, $5; C. C. Bihler, Orland, $4.54; J. Aiken, Orland, $4.54; A. M. Hengy, Croville, $4.54; H. R. Daman, Durham, $4.54; E. R. Griswold, Salida, $4.15; Wm R. Clark, Modesto, $4.15; W. G. Hewes, Corona, $4.00; Henry Hauser, Sacramento, $4; A. L. Matthews, Ceres, $3.77; J. W. Oats, Lompoc, 3.90; I. Kreiss, Escondido, $3.00; A. C. Mayer, Monrovia, $3.00; J. V. Schultz, Orange, $3.00; Andrew Joplin, Santa Ana, $3.00; G. T. Jackson, San Diego, $3; L. T. Birch, Orland, $2.50; A. E. Hiddleswait, Onyx, $2; G. J. Triphon, N. Sacramento, $1.15; Wm. Segsworth, Grass Valley, $1.00; W. F. Schaefer, Anaheim, $1; B. J. Collins, Garden Grove, $1; Irving W. Ohmstede, Redlands, $1; Wm. L. Carruthers, Los Angeles, $1; T. H. Shepard, Calexico, $1; Mr. Moffatt, El Cenrro, $1; W. H. Goode, Calexico, $1; V. Austin, Brawley, $1; O. P. Mandrapa, Calexico, $1; H. Cross, El Centro, $1; P. E. Beatty, Anaheim, $1; J. D. Huston, Fellerton, $1; J. W. Stives, Fullerton, $1; Wm. McPherson, Santa Ana, $1; G. W. Edwards, Seeley, $1; B. G. King, El Centro, $1; G. Yohrli, Riverside, $1; California Olive & Honey, Los Angeles, $1; R. G. Kolsbun, Conoga Park, $1; C. R. Bardrick, Oceano, $1; W. Dempsey, Watsonville, 50c; Sidney A. Vanderpool, Watsonville, 50c.

Colorado—L. R. Rice, Greeley, $8.55; Chas. Adams & Son, Greeley, $8.28; Otto Piper, Orchard, $5.52; J. A. Green, Grand Junction, $5.22; J. E. Wadleigh, La Junta, $5; J. W. Holzberlein, Jr., Grand Valley, $5; Hans M. Mathison, Denver, $2.76; John Olsborg, Platteville, $2.76; J. S. Nease, Salida, $1; Harry McCombs, Sterling, $1; W. A. Cheek, Merino, $1; T. F. Gordon, Boulder, 70c; Fred Schappi, Nucla, $3.00.

Connecticut—Connecticut State Bee Assn., Meriden, $25; Engelhardt & Miller Apiaries, Wallingford, $5; Mrs. Roy Stadel, Southington, $2.15; Carlton W. Groteau, Mt. Carmel, $1; Edna E. Erickson, Danbury, $1.

Florida—H. E. Williams, Citrus Center, $5; J. H. Booth, Labelle, $1; Thos. E. Caton, Pierce, $1; A. C. Lundin, Tampa, $1; Wm. Hahman, Ormund Beach, $1; R. E. Foster, Gainesville, $1; L. M. Lewis, Havana, $1; Max C. Krueger, Eaton Park, $1; John Womsley, Merretts, $1; M. F. Darby, Zephyrhills, $1.

Georgia—T. E. Dennington, Decatur, $3.37; Frank M. Baldwin Presbyterian Church, Darian, $2; C. E. Lovett, Atlanta, $1; G. G. Puett, Hahira, $1.

Idaho—Robert E. Miller, Twin Falls, $4; Wm. T. Gibson, Rexburg, $2.50; O. S. Cox, Shelley, $2.50; Wm. W. Mitchell, Shelley, $2.50; Lee Browning, Rexburg, $2.50; H. C. Fowler, Rexburg, $2.50; W. E. Liebert, St. Anthony, $2.50; Lee Hanson, Rigby, $2.50; Arthur Shore, Blackfoot, $2.50; J. H. Stoneman, Blackfoot, $2.50; Earl J. Miller, Blackfoot, $2.50 E. M. Nelson, Blackfoot, $2.50; C. M. Hurst, Blackfoot,, $2.50; H. B. Weber, Blackfoot, $2.50; L. F. Randall, Idaho Falls, $2.50; J. Epstein, Idaho Falls, $2.50; Sam P. Nealey, Sterling, $2.50; Grover Mobley, Rigby, $2.50; H. R. Bowen, Roberts, $2.50; C. B. Roscoe, Roberts, $2.50; C. E. Friedrich, Kuna, $1.80; K. M. Hutteball, Boise, $1.80; Phil Roney, New Plymouth, $1.80; Atwater Honey Company, Meridian, $1.80; Clyde Nesbitt, Meridian, $1.80; W. P. Murphy, Boise, $1.80; Roy Rabbitt, Caldwell, $1.80; Frank Jolly, Meridian, $1.80; Idaho Honey Co., Middleton, $1.80; C. A. Williams, Meridian, $1.80; Albert D. Wood, Boise, $1.80; C. E. Sprague, Caldwell, $1.80.

Illinois—Anonymous, Belleville, $20; C. Holm, Genoa, $14; L. L. Ness, Morris, $11; G. H. Cale, Hamilton, $10; C. J. Anderson, Morris, $9.74; Morgan-Scott Co. Bee Ass'n., Woodson, $8.69; Wesley W. Osborn, Hillsboro, $7; Max Noack, Chicago, $6; C. G. Streider, Brimfield, $6 A. A. Augenstein, Dakota, $5.20; Brother Frederick, Techny, $5; Winnebago Co. Bee Ass'n., Rockford, $5; Hancock Co. Bee Ass'n., Hamilton, $5; V. G. Milum, Champaign, $5; St. Clair Bee Ass'n., Belleville, $5; Elva Kirlin, Warsaw, $5; A. L. Holmes, Jacksonville, $3.35; W. G. Duckwell, Jacksonville, $3.34; Tri Co. Bee Ass'n., Oregon, $3; J. J. Vargo, Granite City, $3; George Reints, Lindenwood, $3; J. J. Hollowell, Farmer City, $2.54; Lawrence W. Fisher, Woodson, $2.49; L. A. Dean, Big Rock, $2.00; Eli Elieff, Galena, $2; T. M. Cherry, Quincy, $2; Lawrence Rocke, Roanoke, $2; Raymond H. Rocke, Morton, $2; O. W. Kennett, Ohlman, $2; Ivan Whiting, Roscoe, $1.20; Harvey Foote, Manito, $1; Henry A. Kelm, Chicago, $1; John Faist, Freeport, $1; S. F. Peterson, Moline, $1; Tom Beddoes, Rockford, $1; Jonkman & Oosting, Evergreen Park, $1; C. F. Rife, Naperville, $1.

(Continued in July issue.)

Package Bees and Queens

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We guarantee pure 3-banded Italian stock, prompt and efficient service, health certificate, young purely mated queens, scientifically bred from highest producing well marked gentle stock. We rear our queens in 2 and 3 standard frame nuclei. Cells are produced under heavy feeding of honey (the bees' own sweet).

Prices f. o. b. here and subject to market agreement. Code prices.

✪

Bernard & Bejeaux Apiaries
ATCHAFALAYA, LA., U. S. A.

We gladly support the American Honey Institute.

Knight's

Dependable Queens

Line-bred, Three-banded Leather-Colored Italians, Accredited and Certified by Alabama Department of Agriculture.

They are extra large, producing large bees, and are the best honey gatherers, gentle and prolific. All queens are carefully reared, and my breeding queens are selected with the greatest care.

All queens guaranteed mated pure.

PRICES POST PAID

Select (one grade)—1 to 9, 70c; 10 to 24, 65c; 25 to 49, 60c; 50, 50c; 100, 45c each.

No charge for clipping. No disease. Health certificate. Safe arrival and satisfaction guaranteed. Prompt shipments.

Jasper Knight, Hayneville, Alabama

CAUCASIANS

Extra gentle, prolific, long tongue, little swarming, dependable workers—10% to 40% ahead of Italians. Wintered here out-of-doors and bred in a climate like their native land—severe winters—cold windy springs—thus insuring their good qualities. Foundation stock from mountainous province of Terek, Caucausus.

Carniolans

Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolan queens headed colonies producing 435 lbs. extracted per colony over the whole yard. 27 years with them. Have supplied many State Agricultural Colleges and Experiment Stations with them. My own and Jan Strgar imported strain.

Lowest code prices on queens. Untested queens, 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each.

Both races withstood the past severe winter better than Italians. Both races build up more readily during the unfavorable springs of our eastern states and are ready for the early flow. Both these races will improve your Italians in gentleness and honey gathering.

Albert G. Hann
Glen Gardner New Jersey

PURE ITALIANS

AT MINIMUM PRICES FIXED BY CODE
PACKAGES WITH SELECT QUEENS

	1-9.	10-49.	50-99.
2-lb. combless	$2.65	$2.55	$2.45
3-lb. combless	3.40	3.30	3.20
2-lb. and 1 fr. nucleus	3.15	3.05	2.90

For additional pounds of bees, add 80c each. For additional frames of brood, add 50c each. Select untested queens at code prices.

Large enough to give you prompt, efficient service. Small enough to give your order personal attention. Over ten years' experience.

Mayeux Bee Farm
Alex. L. Mayeux, Prop. HAMBURG, LA.

Latham's Queens
"She-Suits-me" Queens
are line-bred three-banded
Italians
This Strain of Italians is outstanding in tongue-length and also in nectar gathering
1 untested laying queen 80c
6 for $4.50 12 for $8
Allen Latham
Norwichtown
Season Made-Good Conn.

MERRILL'S QUALITY QUEENS AND BEES

Requeening Time **Our 25th Year**

Does our twenty-five years' experience mean anything to you? Let **MERRILL'S QUALITY QUEENS AND BEES** prove that it means a lot to beekeepers. We are not trying to see how cheap we can produce queens, but are trying to see how good we can rear them for you, realizing that the time has come when the breeders that supply the best queens and bees will profit best.

BEES

Not too late to make increase, and a fine time, too, to use package bees to boost up colonies that are not full strength for the honey flow. A package of young bees added to the weak colonies now should mean a good harvest from every colony you have.

LOWEST PRICES FOR THE SEASON

Italian Queens—1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 to 99, 50c; 100 to 250, 45c; 250 or more, 42½c.

Two-pound packages with queens—1 to 9, $2.10; 10 to 49, $2.05; 50 to 99, $1.95; 100 to 250, $1.71; 250 or more, $1.58½.

Three-pound packages with queens—1 to 9, $2.80; 10 to 49, $2.70; 50 to 99, $2.60; 100 to 250, $2.29; 250 or more, $2.22.

Let us prove that our stock of queens and bees are good. Send us a trial order. First in quality and service.

Merrill Bee Company

Mississippi's Oldest Shippers **Bucatunna, Miss.**

CONTINENTAL

HONEY CANS and PAILS

"IT'S BETTER PACKED IN TIN"

THESE clean, bright, tight cans will help you sell more honey. They make a strong appeal to your customers and assure the Honey reaching them in excellent condition. Made in several styles and sizes to meet your needs. Complete information, prices, terms or samples may be secured through any of the distributors listed here, or any of our offices.

THESE DISTRIBUTORS ARE READY TO SERVE YOU:

DECATUR, IND.
The Brock Store

GRAND RAPIDS, MICH.
A. G. Woodman Co.

BOISE, IDAHO
Mountain States Honey Prod. Assn.

LOS. ANGELES, CAL.
Los. Angeles Honey Co.
Bryant & Cookinham
Diamond Match Co.

MANHATTAN, MONT.
Superior Honey Co.

HAMILTON, ILL.
Dadant & Sons

MOORHEAD, MINN.
North Dakota Bee Supply Co.

OGDEN, UTAH
Superior Honey Co.

DENVER, COL.
Colorado Honey Producers Assn.

LANSING, MICH.
M. H. Hunt & Son

ST. PAUL, MINN.
A. I. Root Company

SYRACUSE, N. Y.
A. I. Root Company

ALHAMBRA, CAL.
B-Z-B Honey Company

HIGGINSVILLE, MO.
The Leahy Mfg. Co.

WINONA, MINN.
Standard Lumber Co.

FARGO, N. DAK.
Magill & Co.

SIOUX CITY, IA.
Sioux Honey Assn.
G. B. Lewis Co.

WATERTOWN, WIS.
G. B. Lewis Co.

ALBANY, N. Y.
G. B. Lewis Co.

LYNCHBURG, VA.
G. B. Lewis Co.

COUNCIL BLUFFS, IA.
The A. I. Root Company of Iowa

CHICO, CAL.
Diamond Match Co.

PHOENIX, ARIZ.
Quick Seed & Feed Co.

CHICAGO, ILL.
A. I. Root Company

COLUMBIA, S. C.
B. B. Kirkland Seed Co.

LONG BEACH, CAL.
J. E. Delgado & Co.

WHEELING, W. VA.
G. B. Lewis Co.

SAN FRANCISCO, CAL.
E. F. Lane & Son

BRAWLEY, CAL.
R. W. Tabor

OAKLAND, CAL.
F. E. Boyden-Hansen Co.

CONTINENTAL CAN COMPANY

4622 WEST NORTH AVENUE, CHICAGO, ILL.

WHEELING JERSEY CITY LOS ANGELES ST. LOUIS CINCINNATI

Right-Now Service

Package Bees and Queens

Pure Italians Only — Lower Prices

Queens that are all that good queens should be. "Booster Packages" that will bring those only-average colonies to the peak quick. What our bees and queens will do for you is of most interest to you right now; not what we, or some of our competitors have done in the past. The Code was supposed to prohibit untruthful advertising, but evidently a few firms have forgotten this.

Never in our twenty years' experience (nineteen years in this county) have we produced quite as good queens as we are producing this year. Even with increased capacity, we have been tardy in deliveries in a few instances. NOW, with a major part of the package orders out of the way, we can promise **QUICKER QUEEN SERVICE.**

PRICES FOR BALANCE OF SEASON:

	1-9	10-24	25-49	50 up
Queens (Select untested)	70c	65c	55c	50c each
Packages with queens:	1-9	10-49	50-99	100-249
2-lb.	$2.15	$2.05	$1.95	$1.70
3-lb.	2.80	2.70	2.60	2.28
"Booster Packages" (Queenless)				
2-lb.	1.45	1.40	1.30	1.20
3-lb.	2.10	2.05	2.00	1.78

We guarantee: Full weight of live bees at destination. Pure mating of all queens. Absolute freedom from disease. Safe arrival in good condition. Satisfactory adjustment of legitimate claims. Yours for a square deal.

Jensen's Apiaries, Crawford, Miss., U. S. A.

NOW

is the ideal time to

Make Increase

and for this purpose you will want

Jay Smith's Fine Queens!

"I wish to report," writes John A. Knight, Bridgeport, Ohio, "that the queens I got from you last year are better than you claim them to be. I placed them beside my other colonies of equal strength and they outdid them nearly two to one."

Our free book, ABOUT BEES, tells you not only the best methods of making increase but treats of many other important phases of practical beekeeping. Write for it.

Our splendid queens will help you toward larger honey crops and bigger profits. PRICES: one, $1; five, $4.75; ten, $9; 100, $75. Breeders, service for season guaranteed, shipped postpaid with one-half pound bees, $7.50 each. We accept honey in payment for queens, allowing 12 queens to each case of 120 pounds, white extracted honey, freight prepaid.

JAY SMITH

Route Five — Vincennes, Indiana

Fine Quality — **Cost Less**

"Sold by the Million"

THERE MUST BE A REASON

Root QUALITY SECTIONS

BUY FROM YOUR DEALER

THE A. I. ROOT COMPANY

MEDINA, OHIO

Fold Square — **Break Less**

Finest Italian Bees and Queens

FRESH FROM OUR OWN YARDS ON TIME

BEES and QUEENS when you NEED THEM mean your honey crop. Try our reliable and fast service—finest quality—Superior queens and young bees—Our supply is large—light crates reduce express—safe delivery—full weight packages and we guarantee satisfaction.

SELECT QUEENS PREPAID TO YOU.

1 to 9	Each 70c	25 to 49	Each 55c
10 to 24	Each 65c	50 or more	Each 50c

PACKAGE BEES—EXPRESS CHARGES COLLECT

2-lb. Package with Queens—		3-lb. Packages with Queens—	
1 to 9	Each $2.15	1 to 9	Each $2.80
10 to 49	Each $2.05	10 to 49	Each $2.70
50 or more	Each $1.95	50 or more	Each $2.60

For each additional pound bees add 80c. For queenless packages deduct price queens. For parcel post shipment add 20c a package—double screening. For from 100 to 249 packages or queens deduct 10 per cent from minimum prices. For from 250 or more packages or queens deduct 15 per cent from minimum prices. NO DISEASE KNOWN HERE.

CITRONELLE BEE CO., INC., CITRONELLE, ALABAMA

B? B? B? B?
Brower Bigger Better Bees

INSTANT SERVICE ON QUEENS AND PACKAGES—IF YOU HAVE NOT ALREADY TRIED THEM, TRY THEM NOW AND BE CONVINCED. A GUARANTEE BROAD AS IT IS LONG. THEY ARE ALL WE CLAIM. REQUEEN YOUR COLONIES WITH OUR BIGGER. BETTER QUEENS THAT PRODUCE BIGGER BETTER BEES. YOU WILL BE SATISFIED IF IT IS ONE OR HUNDREDS. FROM BIG FINE QUEEN CELLS, OUR BIG FINE QUEENS GROW. BRED FROM THE FINEST ITALIAN STOCK WHICH WE HAVE IMPROVED THROUGH OUR LONG CAREFUL SELECTION AND BREEDING FROM THE BEST EACH YEAR, MATED TO SELECT DRONES. GUARANTEED TO PLEASE YOU IN EVERY WAY. Safe arrival in U. S. A. or Canada. No disease ever been known in this section of state. Health certificate, FAST MAIL AND EXPRESS SERVICE ON PACKAGES AND QUEENS. Caged fresh in the A. M. of the day they are shipped. They leave our shipping point the same day. WE AIM TO PLEASE YOU.

Code Prices—Select queens, June 1 to October 1—1 to 9, 70c; 10 to 24, 65c; 25 to 49, 55c; 50 or more, 50c.

Two pounds—1 to 9, $2.65; 10 to 49, $2.55; 50 or more, $2.45; three pounds—1 to 9, $3.40; 10 to 49, $3.30; 50 or more, $3.20.

Telegraph and Express Office GARDEN CITY, ALA. **BROWER BEE CO, Bangor, Ala.**

In a Hurry, Let Us Serve You Quickly

GENUINE 3-BANDED ITALIAN BEES AND QUEENS. Strong young bees and select queens of superior quality—efficient service—safe delivery—full weight—good workers—light cages—satisfaction.

SELECT QUEENS PREPAID TO YOU.

1 to 9	Each 70c	25 to 49	Each 55c
10 to 24	Each 65c	50 or more	Each 50c

PACKAGE BEES—EXPRESS CHARGES COLLECT

2-lb. Packages with Queens—		3-lb. Packages with Queens—	
1 to 9	Each $2.15	1 to 9	Each $2.80
10 to 49	Each $2.05	10 to 49	Each $2.70
50 or more	Each $1.95	50 or more	Each $2.60

For each additional pound bees add 80c. For queenless packages deduct price queens. For parcel post shipment, add 20c a package—Double screening. For from 100 to 249 packages or queens deduct 10 per cent from minimum prices. For from 250 or more package or queens deduct 15 per cent from minimum prices. NO DISEASE KNOWN HERE.

Instructions for introducing bees and queens accompany each shipment.

HOLDER APIARIES, CITRONELLE, ALABAMA

THRIFTY BEES!

pile up extra supers of honey. That's why they are guaranteed to please.

WE CAN MAKE PROMPT SHIPMENT of combless package bees and queens. Our **THRIFTY** three-banded Italian bees are Accredited and Certified by the Alabama Department of Agriculture.

Fuller & Fuller of Pennsylvania have this to say about **THRIFTY** bees: "We have used your queens for several seasons, and find that they outstrip, in honey-gathering, any others we have so far received from other breeders." Let **THRIFTY** bees help you make this a more profitable season.

Prices of untested queens are: 1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; 50 or more, 50c each. 100 or more queens, 10% less than the lowest price quoted. 250 queens, 15% less. Booklet free.

Prices of Package Bees: Two-pound packages, 1 to 9, $2.15 each; 10 to 49, $2.05 each; 50 or more, $1.95 each. Three-pound packages are 65c each more than two-pound packages. Prices include queen and are F. O. B. our station.

Forty-three years' experience enables us to serve you better. Wire your rush orders. We will ship C. O. D.

W. J. FOREHAND & SONS, Fort Deposit, Ala.

Breeders since 1892.

WALTER T. KELLEY

Queens!

For years we have been producing 100 Queens daily. We know how. We spare no expense to produce the largest and finest Queens possible.

PRICES

1-9 70c ea.; 10-24 65c ea.; 25-47 55c ea.; 50 or more, 50c ea.

Wax!

We will accept your beeswax in trade for Queens or supplies at catalog prices, at 30c per pound prepaid to Houma.

Gulf Coast Bee Company, Houma, Louisiana

N. Norman's

Package Bees and Queens

Three-banded Italians Only

They satisfy. Why? Because they are bred from the very highest of Italians obtainable and are reared by men who know how. They will prove to your satisfaction. When you realize how our 3-band Italian queens will help to increase your honey profits, you will want no other kind. I have spared neither labor nor expense to make them the best. You take no risk in buying NORMAN'S queens and bees. If you are not satisfied with them, I will replace them or refund your money. Isn't this a fair proposition to any one that purchases queens and bees? I am in position to take care of your orders.

2-lb. packages with queen—1-9, $2.65; 10-49, $2.55; 50 or more, $2.45. 3-lb. packages with queen—1-9, $3.40; 10-49, $3.30; 50 or more, $3.20.

Queens, Untested—1-9, 70c; 10-24, 65c; 25-49, 55c; 50 or more, 50c.

Tested queens, double the price of an untested.

All packages F. O. B. express. I guarantee state health certificate, full weight of bees, light cages, safe arrival in U. S. and Canada, and satisfaction.

The Norman Apiaries, Lapine, Ala.

N. NORMAN, Manager

Order

HARRELL'S

Three-banded Italian Queens and Bees

They are Accredited and Certified by Alabama Department of Agriculture.

—Package Bees via Express Collect—
2-lb. package, with sel. untested queen, 1 to 9, $2.15 each; 10 to 49, $2.05; 50 or more, $1.95 each. 3-lb. package with sel. untested queen, 1 to 9, $2.80 each; 10 to 49, $2.70 each; 50 or more, $2.60 each. Parcel Post prices quoted on request.

———Select Untested Queens———
1 to 9, 70c each; 10 to 24, 65c each; 25 to 49, 55c each; fifty or more, 50c each.

10% less than the fifty lot retail price on 100 to 249 queens or packages. 15% less than the fifty lot retail price on 250 or more queens or package bees.

Why wait? Book your order now and get prompt delivery.

Please note firm's name changed from Hayneville Apiary Co. to W. E. Harrell, but no change in personnel.

W. E. HARRELL

Hayneville Alabama

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